UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

MEMORANDUM

Date: 2-NOVEMBER-2015

SUBJECT: **Mefenoxam** Acute Aggregate Dietary (Food and Drinking Water) Exposure and Risk Assessment for the Section 3 Registration Action on the Rapeseed Subgroup 20A.

PC Code: 113502
Decision No.: 497002
Petition No.: 4F8323
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Regulatory Action: Section 3 Registration
Case No.: NA
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40 CFR: 180.546

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Executive Summary

An acute aggregate dietary (food and drinking water) exposure and risk assessment was conducted using the Dietary Exposure Evaluation Model software with the Food Commodity Intake Database (DEEM-FCID) Version 3.16. This software uses 2003-2008 food consumption data from the U.S. Department of Agriculture's (USDA's) National Health and Nutrition Examination Survey, What We Eat in America (NHANES/WWEIA). The analysis was conducted in support of a human-health risk assessment for the proposed Section 3 use of mefenoxam on the rapeseed subgroup 20A. This memorandum was reviewed by two peer reviewers of the DESAC, per DESAC SOP 2012.1.

Acute Dietary (Food and Drinking Water) Exposure Assessment

HED conducted a somewhat refined acute dietary and drinking water exposure assessment for the proposed food use of mefenoxam on the rapeseed subgroup 20A and the existing uses of both metalaxyl and mefenoxam. Residues were assumed to be present at tolerance levels in plant commodities, with additional factors applied to certain plant commodities to include all residues of concern for risk assessment. Data from metabolism studies on goats and hens were used to estimate levels of metalaxyl/mefenoxam residues of concern in livestock commodities. DEEM default and empirical processing factors were used as available. It was assumed that 100% of the crops were treated. A residue distribution file was used for drinking water, with data obtained from the Tier I Pesticide Root Zone Model – Ground Water (PRZM-GW) using the NC cotton scenario.

Results of the acute dietary assessment indicate that the general U.S. population and all other population subgroups have exposure and risk estimates below HED's level of concern. The DEEM acute dietary exposure estimate is 39% of the acute population adjusted dose (aPAD) for the general U.S. population, and 95% of the aPAD for the highest exposed population subgroup, all infants.

Chronic Dietary (Food and Drinking Water) Exposure Assessment

The toxicological endpoints for mefenoxam and metalaxyl were reassessed in a ToxSAC meeting on 9/21/15. At that time, no chronic dietary endpoint was identified for mefenoxam and metalaxyl. Therefore, no chronic dietary assessment was conducted in this assessment.

Cancer Dietary Exposure Assessment

No cancer assessment was conducted since metalaxyl has been classified as "not likely to be carcinogenic in humans."

I. Introduction

Dietary risk assessment incorporates both exposure and toxicity of a given pesticide. For acute and chronic assessments, the risk is expressed as a percentage of a maximum acceptable dose (i.e., the dose which HED has concluded will result in no unreasonable adverse health effects). This dose is referred to as the population adjusted dose (PAD). The PAD is equivalent to point of departure (POD, NOAEL, LOAEL, e.g.) divided by the required uncertainty or safety factors.

For acute and non-cancer chronic exposures, HED is concerned when estimated dietary risk exceeds 100% of the PAD. References that discuss the acute and chronic risk assessments in more detail are available on the EPA/pesticides web site: "Available Information on Assessing Exposure from Pesticides, A User's Guide," 21-JUN-2000, web link: http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OPP-2007-0780-0001; or see SOP 99.6 (20-AUG-1999).

The most recent dietary risk assessment for mefenoxam was conducted by Nancy Dodd (2-JULY-2010, DP#371309).

II. Residue Information

Residues of Concern

Mefenoxam is the enriched *R*-isomer of metalaxyl, a racemic *R/S*-isomer mixture. The nature of the residue in plants and livestock is adequately understood for mefenoxam and metalaxyl based on metalaxyl metabolism studies. The HED Risk Assessment Review Committee (RARC) has concluded that the metalaxyl/mefenoxam residues of concern in plant and livestock commodities for dietary assessment/risk assessment are metalaxyl/mefenoxam per se, its metabolites containing the 2,6-dimethylaniline (2,6-DMA) moiety, its metabolites containing the 2-hydroxymethyl-6-methylaniline (HMMA) moiety, its metabolites containing the ring hydroxylated dimethylaniline (Ring-OH) moiety, and its metabolites containing the benzoic acid moiety. Essentially, the Committee has determined that all residues identified in plant and livestock commodities from the available metabolism studies are of concern since none can be excluded for toxicological reasons (DP#333767, B. Cropp-Kohlligian, 3/7/07).

Tolerances

Tolerances for residues of mefenoxam are established under 40 CFR §180.546(a) for residues of mefenoxam, including its metabolites and degradates. Compliance with the tolerance levels are to be determined by measuring only metalaxyl (methyl *N*-(2,6-dimethylphenyl)-*N*-(methoxyacetyl)-*DL*-alaninate). Tolerances are established for fruits, herbs, and vegetables at levels ranging from 0.05 to 55 ppm. No mefenoxam tolerances are established for livestock commodities.

Tolerances for residues of metalaxyl are established under 40 CFR §180.408(a) and (c) for the combined residues of metalaxyl [*N*-(2,6-dimethylphenyl)-*N*-(methoxyacetyl)alanine methyl ester] and its metabolites containing the 2,6-dimethylaniline moiety, and *N*-(2-hydroxymethyl-6-methylphenyl)-*N*-(methoxyacetyl)alanine methyl ester, each expressed as metalaxyl equivalents. Tolerances are established under 40 CFR §180.408(d) for indirect or inadvertent residues of metalaxyl. The established tolerances for plant commodities under 40 CFR §180.408(a), (c), and (d) range from 0.1 ppm to 25.0 ppm. The established tolerances under 40 CFR §180.408(a) for livestock commodities are 0.05 ppm for eggs, 0.02 ppm for milk, 0.05 ppm for meat and meat byproducts (except kidney and liver) of cattle, goat, hog, horse, poultry, and sheep, and 0.4 ppm for kidney, liver, and fat of cattle, goat, hog, horse, poultry, and sheep.

Residue Data used for Acute Assessment

HED conducted a somewhat refined acute dietary (food and drinking water) exposure assessment for the proposed food use of mefenoxam on the rapeseed subgroup 20A and the existing uses of both metalaxyl and mefenoxam. Residues were assumed to be present at tolerance levels in plant commodities, with additional factors applied to certain plant commodities to include all residues of concern for risk assessment; these additional factors are discussed in Attachment 1. DEEM

default and empirical processing factors were used as available. It was assumed that 100% of the crops were treated (100% CT). A residue distribution file was used for drinking water, with data obtained from the Tier I Pesticide Root Zone Model – Ground Water (PRZM-GW) using the NC cotton scenario.

Rapeseed Subgroup 20A: As indicated in Appendix 1, residues of metalaxyl and metabolites of concern for the risk assessment are not expected to exceed 0.1 ppm from seed treatment applications. Residues do not concentrate in oil. Therefore, 0.1 ppm is used as the residue value for the rapeseed subgroup 20A in the dietary assessment as shown in Table 1.

Livestock Commodities: Livestock dietary burdens have been calculated using feedstuffs from both mefenoxam and metalaxyl. Residue levels used in the dietary assessment include all residues of concern for the risk assessment. Data from metabolism studies on goats and hens were used to estimate levels of metalaxyl/mefenoxam residues of concern in livestock commodities; calculations of livestock dietary burdens and residue levels are shown in Attachment 1. Residue levels used for livestock commodities in the dietary assessment are also shown in Table 2.

Table 1. Tolerance Summary for Mefenoxam.

Commodity	Proposed Tolerance (ppm)	HED-Recommended Tolerance (ppm)	Residue Levels Used in the Dietary Assessment including All Residues of Concern	Comments (*correct commodity definition*)
Rapeseed Crop Subgroup 20A	0.05	0.05	0.10	*Rapeseed subgroup 20A*

Table 2. Livestock Tolerance Summary for Metalaxyl (including Mefenoxam Residues).

Commodity	Established Tolerance (ppm)	HED-Recommended Tolerance (ppm)	Residue Levels Used in the Dietary Assessment including All Residues of Concern	Comments (*correct commodity definition*)
Egg	0.05	0.05	0.11	
Cattle, fat Goat, fat Hog, fat Horse, fat Sheep, fat	0.4	0.05	0.47	
Poultry, fat	0.4	0.05	0.083	
Cattle, kidney Goat, kidney Hog, kidney Horse, kidney Sheep, kidney	0.4	None	2.67	EPA no longer establishes separate tolerances on kidney. There is no kidney in poultry.
Cattle, liver Goat, liver Hog, liver Horse, liver	0.4	None	2.23	EPA no longer establishes separate tolerances on liver.

Sheep, liver				
Poultry, liver	0.4	None	0.39	EPA no longer establishes separate tolerances on liver.
Cattle, meat Goat, meat Hog, meat Horse, meat Sheep, meat	0.05	0.05	0.16	
Poultry, meat	0.05	0.05	0.19	
Cattle, meat byproducts, except kidney and liver Goat, meat byproducts, except kidney and liver Hog, meat byproducts, except kidney and liver Horse, meat byproducts, except kidney and liver Sheep, meat byproducts, except kidney and liver	0.05	2.0	2.67	*Cattle, meat byproducts* *Goat, meat byproducts* *Hog, meat byproducts* *Horse, meat byproducts* *Sheep, meat byproducts* EPA no longer establishes separate tolerances on liver and kidney. Instead, tolerances are established for meat byproducts.
Poultry, meat byproducts, except kidney and liver	0.05	0.10	0.39	*Poultry, meat byproducts.*
Milk	0.02	0.01	0.10	

The USDA Pesticide Data Program (PDP) monitored pesticide residues in catfish in 2008, 2009, and 2010. In general, pesticide residues would not be expected to be found in fish unless the pesticide bio accumulates or has an aquatic use. To determine whether or not residues are present in fish, HED now routinely checks PDP monitoring data regardless of the pesticide's uses and physicochemical properties. PDP did not analyze catfish samples for mefenoxam; however, PDP monitored pesticide residues of metalaxyl in catfish in 2008, 2009, and 2010. Over this 3-year period, PDP analyzed 1479 samples of catfish for metalaxyl residues. None of the samples contained detectable residues. As a result, residues in fish were not included in the assessment.

III. Percent Crop Treated Information

No percent crop treated data were used.

IV. Drinking Water Data

The drinking water residues used in the dietary risk assessment were provided by the Environmental Fate and Effects Division (EFED) in an e-mail from He Zhong dated 9/23/15 and incorporated directly into this dietary assessment. Water residues were incorporated in the

DEEM-FCID into the food categories "water, direct, all sources" and "water, indirect, all sources."

The drinking water exposure assessment was conducted for metalaxyl and mefenoxam using updated models, the Surface Water Concentration Calculator (SWCC) and PRZM-GW. The recommended EDWCs are total toxic residues for parent and two degradates (CGA-62826 and CGA-119857) based on the highest usage rate of 12 lb ai/A.

Based on the revised SWCC estimates and after 0.91 default percent crop treated (PCA) adjustment, the highest EDWCs from surface water source are not expected to exceed 741 µg/L (ppb) for the 1 in 10 year daily peak concentration (FL Citrus Scenario), 224 µg/L for the 1 in 10 year annual concentration, and 173 µg/L for the 30 year annual average concentration (CA Citrus Scenario). EDWCs from the ground source were revised by the Tier I PRZM-GW model, which estimates that the highest acute value is 3,700 µg/L for the NC cotton scenario.

As shown in Table 3, the value of 3,700 µg/L (3.7 ppm) was the acute point estimate from the Tier I PRZM-GW model using the NC cotton scenario; however, a residue distribution file based on the NC cotton scenario was used for drinking water in the acute dietary assessment.

Table 3. Summary of Estimated Surface Water and Groundwater Concentrations for Metalaxyl/Mefenoxam.

	Metalaxyl/Mefenoxam	
	Surface Water Conc., ppb [a]	**Groundwater Conc., ppb [b]**
Acute	741	3,700
Chronic (non-cancer)	224	3,200
Chronic (cancer)	173	3,200

[a] SWCC model with 0.91 PCA using the Fl citrus scenario for acute and the CA citrus scenario for chronic.
[b] Tier 1 PRZM-GW model using the NC cotton scenario for acute and the WI corn scenario for chronic.

The model and its description are available at the EPA internet site: http://www.epa.gov/oppefed1/models/water/.

V. DEEM-FCID™ Program and Consumption Information

The mefenoxam/metalaxyl acute dietary exposure assessment was conducted using the DEEM-FCID, Version 3.16, which incorporates 2003-2008 consumption data from USDA's NHANES/WWEIA. The data are based on the reported consumption of more than 20,000 individuals over two non-consecutive survey days. Foods "as consumed" (e.g., apple pie) are linked to EPA-defined food commodities (e.g. apples, peeled fruit - cooked; fresh or N/S; baked; or wheat flour - cooked; fresh or N/S, baked) using publicly available recipe translation files developed jointly by USDA/ARS and EPA. For acute exposure assessment, consumption data are retained as individual consumption events. Based on analysis of the 2003-2008 WWEIA consumption data, which took into account dietary patterns and survey respondents, HED concluded that it is most appropriate to report risk for the following population subgroups: the

general U.S. population, all infants (<1 year old), children 1-2, children 3-5, children 6-12, youth 13-19, adults 20-49, females 13-49, and adults 50-99 years old.

For an acute exposure assessment, individual one-day food consumption data are used on an individual-by-individual basis. The reported consumption amounts of each food item can be multiplied by a residue point estimate and summed to obtain a total daily pesticide exposure for a deterministic exposure assessment, or "matched" in multiple random pairings with residue values and then summed in a probabilistic assessment. The resulting distribution of exposures is expressed as a percentage of the aPAD on both a user (i.e., only those who reported eating relevant commodities/food forms) and a per-capita (i.e., those who reported eating the relevant commodities as well as those who did not) basis. In accordance with HED policy, per capita exposure and risk are reported for analyses performed at all levels of refinement. However, for deterministic assessments, any significant differences in user vs. per capita exposure and risk are specifically identified and noted in the risk assessment.

VI. Toxicological Information

The toxicological endpoints for mefenoxam and metalaxyl were reassessed in a ToxSAC meeting on 9/21/15.

Acute Dietary Endpoint for the General Population and for Females 13-49 Years of Age: In a prenatal developmental toxicity study in rats (MRID 00144423), neurobehavioral clinical signs (i.e., convulsions that occurred minutes after dosing) was observed at the mid-dose (LOAEL=250 mg/kg/day). The route and the single-dose nature of the adverse effects are appropriate for acute dietary risk assessment. The total safety factor is 100x (i.e., 10x for interspecies extrapolation, 10x for intraspecies extrapolation, and a FQPA SF of 1x). The aPAD for all populations is 0.5 mg/kg/day.

Chronic Dietary Endpoint for the General Population: No endpoint was identified for the following reasons: (1) there were no adverse effects in any of the long-term studies up to ~150 mg/kg/day; and (2) adverse effects consisted of neurobehavioral clinical signs and were only observed when test animals were gavage dosed at or greater than 250 mg/kg/day.

FQPA Safety Factor: For all assessment scenarios, the default 10x FQPA Safety Factor can be reduced to 1x for the following reasons:

1) The toxicity databases for mefenoxam and metalaxyl are adequate for FQPA SF evaluation.
2) There were no indications of neurotoxicity in the prenatal developmental toxicity studies or the reproduction and fertility effects study.
3) There was no evidence of increased susceptibility following pre-/post-natal exposure in the prenatal developmental toxicity studies or the reproduction and fertility effects study.
4) There are no residual uncertainties in the exposure databases.

Cancer: Metalaxyl has been classified as "not likely to be carcinogenic in humans" based on the results of carcinogenicity study in mice and the combined chronic toxicity and carcinogenicity study in rats (TXR0004874, 21 June 1985; TXR0014165, 17 May 2000).

Metalaxyl-M has been classified as "not likely to be carcinogenic in humans" based on the classification of metalaxyl (TXR0014165, 17 May 2000).

Refer to Table 4 for a summary of the endpoints relevant to the dietary exposure assessment.

Table 4. Toxicological Doses and Endpoints for Mefenoxam for Use in Dietary Health Risk Assessments.

Exposure/Scenario	Point of Departure	Uncertainty/ FQPA Safety Factors	RfD, PAD, Level of Concern for Risk Assessment	Study and Toxicological Effects
Acute Dietary General population (including infants and children) Females (13-49 years old)	NOAEL = 50 mg/kg/day	UF_A = 10x UF_H = 10x FQPA SF = 1x	aRfD = 0.5 mg/kg/day aPAD = 0.5 mg/kg/day	Metalaxyl Prenatal Developmental Toxicity – Rat LOAEL = 250 mg/kg/day Based on dose-related increases in clinical signs of toxicity (e.g., post-dosing convulsions (occurred shortly after dosing)).
Cancer (oral, dermal, and inhalation)	Classification: "Not Likely to be Carcinogenic to Humans" based on the absence of treatment-related increases in tumor incidence in adequately conducted carcinogenicity studies in rats and mice treated with metalaxyl.			

Point of Departure (PoD) = A data point or an estimated point that is derived from observed dose-response data and used to mark the beginning of extrapolation to determine risk associated with lower environmentally relevant human exposures. NOAEL = no observed adverse effect level. LOAEL = lowest observed adverse effect level. UF = uncertainty factor. UF_A = extrapolation from animal to human (interspecies). UF_H = potential variation in sensitivity among members of the human population (intraspecies). FQPA SF = FQPA Safety Factor. PAD = population adjusted dose (a = acute, c = chronic). RfD = reference dose.

VII. Results/Discussion

As stated above, for an acute assessment, HED is concerned when dietary risk exceeds 100% of the PAD. The DEEM-FCID analyses estimate the dietary exposure and risk of the U.S. population and various population subgroups. The results reported in Table 5 are for the general U.S. Population, all infants (<1 year old), children 1-2, children 3-5, children 6-12, youth 13-19, females 13-49, adults 20-49, and adults 50-99 years old. Cancer risk is determined for the general U.S. population only.

Results of Acute Dietary (Food and Drinking Water) Exposure Analysis

The results of the acute dietary exposure analysis are reported in the summary table below. The results indicate that the general U.S. population and all other population subgroups have exposure and risk estimates below HED's level of concern. The DEEM acute dietary exposure estimate is 39% of the aPAD for the general U.S. population, and 95% of the aPAD for the highest exposed population subgroup, all infants.

Table 5. Summary of Dietary (Food and Drinking Water) Exposure and Risk for Mefenoxam/Metalaxyl[1]

Population Subgroup	Acute Dietary (95th Percentile)		Chronic Dietary		Cancer	
	Dietary Exposure (mg/kg/day)	% aPAD	Dietary Exposure (mg/kg/day)	% cPAD	Dietary Exposure (mg/kg/day)	Risk
General U.S. Population	0.194017	39	NA	NA	NA	NA
All Infants (< 1 year old)	0.474356	95				
Children 1-2 years old	0.320884	64				
Children 3-5 years old	0.285663	57				
Children 6-12 years old	0.198925	40				
Youth 13-19 years old	0.155781	31				
Adults 20-49 years old	0.182309	36				
Adults 50-99 years old	0.165636	33				
Females 13-49 years old	0.184804	37				

[1]The population subgroup with the highest estimated acute dietary (food + drinking water) exposure and risk is indicated by bold text.

VIII. Characterization of Inputs/Outputs

Residue Issues

Given concerns regarding the adequacy of the residue analytical methods to determine metalaxyl/mefenoxam residues of concern in plant and animal commodities, the HED RARC has approved the use of factors, as appropriate, derived from available residue chemistry data, to estimate total metalaxyl/mefenoxam residues of concern for dietary risk assessments. A detailed discussion of concerns regarding the analytical method and of the factors applied to assess to total residues of concern is provided in the Appendix.

Level of Refinement

A somewhat refined acute dietary exposure assessment was conducted for all existing and proposed new food uses of metalaxyl/mefenoxam and drinking water. Tolerance level residues were assumed for plant commodities. The assessment included both direct use tolerances for metalaxyl/mefenoxam and indirect or inadvertent tolerances for metalaxyl. In addition, given concerns regarding the adequacy of the residue analytical method to determine metalaxyl/mefenoxam residues of concern in plant and animal commodities, additional factors were applied, as appropriate, based on available residue chemistry data, to estimate total residues

of concern for dietary risk assessment. Data from metabolism studies on goats and hens were used to estimate conservative levels of metalaxyl/mefenoxam in livestock commodities. Processing data for cereal grain flour and fruit juice were also used in the assessment.

The assessment used tolerance-level residues, modeled drinking water estimates, and assumed 100% crop treated and incorporated default processing factors. The assessment could be refined using anticipated residues, percent crop treated information, and additional empirical processing data; however, these refinements were not conducted since risk estimates were not of concern and water is the major contributor of exposure/risk.

IX. Conclusions

A somewhat refined acute dietary exposure assessment was conducted for all existing and proposed new food uses of metalaxyl/mefenoxam and drinking water. The assessment assumed that residues were present at tolerance levels in plant commodities for both direct use tolerances for metalaxyl/mefenoxam and indirect or inadvertent tolerances for metalaxyl. Additional factors were applied to certain plant commodities to address concerns regarding the adequacy of the residue analytical method. Results of the acute dietary assessment indicate that the general U.S. population and all other population subgroups have exposure and risk estimates below HED's level of concern. The DEEM acute dietary exposure estimate is 39% of the aPAD for the general U.S. population, and 95% of the aPAD for the highest exposed population subgroup, all infants.

X. List of Attachments

- Attachment 1. Metalaxyl/Mefenoxam Dietary Exposure Estimates in Food for Chronic Dietary Risk Assessments
- Attachment 2. Acute Food plus Water Residue Input File
- Attachment 3. Acute Food plus Water Results File
- Attachment 4: Acute Food Only Residue Input File
- Attachment 5: Acute Food Only Results File
- Attachment 6: Acute Water Only Residue Input File
- Attachment 7: Acute Water Only Results File
- Attachment 8: CEC Results for Food Plus Water File

Attachment 1. Metalaxyl/Mefenoxam Dietary Exposure Estimates in Food for Dietary Risk Assessments

See: D325137, B. Cropp-Kohlligian, 03/07/2007.
Metalaxyl/Mefenoxam. RARC Issues Memo, 02/07/2007.
Metalaxyl/Mefenoxam. RARC Report, 02/14/2007.

See also: Mefenoxam. MARC Issues Memo, 10/17/2000.
Mefenoxam. MARC Decision Memo, 10/27/2000.
Metalaxyl Final Reregistration Standard and Tolerance Reassessment (FRSTR) Guidance Document, 9/88
Metalaxyl Reregistration Eligibility Decision (RED) Document, September, 1994.

The HED Risk Assessment Review Committee (RARC) approved the use of factors derived from available residue chemistry data to estimate total metalaxyl/mefenoxam residues of concern for dietary risk assessments.

Furthermore, the HED RARC has concluded that the metalaxyl/mefenoxam residues of concern in plant and livestock commodities for dietary assessments are metalaxyl/mefenoxam *per se*, its metabolites containing the 2,6-dimethylaniline (2,6-DMA) moiety, its metabolites containing the 2-hydroxymethyl-6-methylaniline (HMMA) moiety, its metabolites containing the ring hydroxylated dimethylaniline (Ring-OH) moiety, and its metabolites containing the benzoic acid moiety. Essentially, the Committee has determined that all residues identified in plant and livestock commodities from the available metabolism studies are of concern since none can be excluded for toxicological reasons.

In 2007 HED determined, after re-evaluation of the available radiovalidation and method validation data, that the common moiety residue analytical methods used to collect magnitude of the residue data for the purposes of setting tolerance levels will not adequately recover all of the metalaxyl/mefenoxam residues of concern. While these methods are adequate to recover residues of metalaxyl/mefenoxam *per se*, they are not likely to recover metalaxyl/mefenoxam metabolites containing the Ring-OH moiety or the benzoic acid moiety and available radiovalidation and method validation data indicate that the methods will not adequately recover metabolites containing the HMMA moiety and may not adequately recover all metabolites containing the 2,6-DMA moiety with the certainty needed to set legal limits. However, for the purposes of estimating the combined residues of metalaxyl/mefenoxam and its metabolites containing the 2,6-DMA moiety in/on plant and livestock commodities in chronic dietary risk assessments, these common moiety methods are deemed adequate for data collection and therefore, current/reassessed tolerance levels are adequate to account for these residues in the risk analysis.

Plant Commodities except Seed Treatments

Current/reassessed tolerance levels in plant commodities are expected to be adequate to estimate the combined residues of metalaxyl/mefenoxam and its metabolites containing the 2,6-DMA moiety in the dietary risk assessments. Available plant (primary and rotational crop) metabolism data reflecting foliar treatments of metalaxyl have been used to estimate factors relative to the combined residues of metalaxyl/mefenoxam and its metabolites containing the 2,6-dimethylaniline (2,6-DMA) moiety, in order to estimate the total residues of concern. See Table A.1.2 below for a summary of the plant metabolism data used to estimate the factors.

Factors are estimated as follows:

- For leafy commodities, a factor of 4x should be applied to the current/reassessed tolerance levels used in the dietary risk assessment to account for all residues of concern.

- For fruit and vegetable commodities, no additional factor needs to be applied to the current/reassessed tolerance levels used in the dietary risk assessment to account for all residues of concern.

- For grain, seed (including dried beans), and nut commodities, a factor of 25x should be applied to the current/reassessed tolerance levels used in the dietary risk assessment to account for all residues of concern.

- For snap bean (succulent), a factor of 1.8x should be applied to the tolerance level in the dietary risk assessment to account for all residues of concern (ChemSAC minutes of the 2/25/09 meeting).

- For caneberries, a factor of 1.3x should be applied to the tolerance level in the dietary risk assessment to account for all residues of concern (ChemSAC minutes of the 2/25/09 meeting).

Total residues of concern from indirect or inadvertent exposure to metalaxyl/mefenoxam for rotational crop commodities listed under 40 CFR 180.408(d) should also include the factors recommended above.

Seed Treatments

In cases, where **direct** uses of metalaxyl/mefenoxam are limited to seed treatments only, total residues of concern are not expected to exceed 0.1 ppm based on available plant metabolism data reflecting seed treatments of metalaxyl on ten different crops. According to the use information provided in the Metalaxyl Reregistration Eligibility Decision (RED) Document (September, 1994) and OPPIN (03/01/2007), among the **direct** uses of metalaxyl/mefenoxam limited to seed treatments only are barley, corn (all types), oats, rye, sorghum, sunflower, and wheat. [Note: This is not intended as a comprehensive list of direct seed treatment uses of metalaxyl/mefenoxam.] Hence the total residues of concern from **direct** uses of metalaxyl/mefenoxam in/on barley, corn (all types), oats, rye, sorghum, sunflower, and wheat are

estimated at 0.1 ppm, consistent with tolerance levels listed for these commodities under 40 CFR 180.408(a).

Flour of Cereal Grains

See also: MRID 00114376

Indirect/inadvertent tolerances are currently established for residues of metalaxyl in/on wheat grain and wheat milling fractions (40.CFR 180.408(d)) at 0.2 ppm and 1.0 ppm, respectively. The registrant has previously submitted metalaxyl wheat processing data (MRID 00114376; PP# 2F2764) which were the basis for setting these tolerances. In brief, winter wheat grain samples treated with metalaxyl and collected from field trial tests conducted in MO and KY as part of a wheat field rotational crop study were processed into flour, bran, shorts/germ, and red dog flour (a low-grade flour used mainly for animal feed). Samples were analyzed using Method I in PAM Vol. II (AG-348) which determines residues of metalaxyl which are convertible to 2,6-DMA using GLC/AFID. The subject wheat grain and flour data are presented below in Table A.1.1. The estimated concentration factors for wheat flour varied widely, ranging from <0.6x to 3.2x. Concentration factors above 1.4x (i.e., the higher concentration factors 3.2x and 2.5x) may be more unreliable due to estimating residues in grain samples at levels below the method's limit of quantitation (0.05 ppm). Also, the higher concentration factors are not consistent with the theoretical concentration factor for wheat flour which is estimated at 1.4x (OPPTS Guideline 860.1520 Processed Food/Feed) and based on separation of components. Taken as a whole, available data suggest that, on average and for the purposes of estimating residue levels in the dietary risk assessments, total metalaxyl/mefenoxam residues of concern in wheat flour are not expected to be significantly higher than those estimated in/on wheat grain. This finding may be translated to other cereal grains.

Fruit Juices

See also:
PP#6F3362/FAP#6H5493 Metalaxyl and Mancozeb on Grapes (DEB No. 5557 and 5558) Evaluation of Amendment Dated June 23, 1989 (MRID 41150101), G. Otakie, 12/11/89.

45613901.der.doc

The available grape juice metabolism data (see Table A.2) indicate that the combined residues of parent and DMA metabolites constitute slightly less of the TRR identified (55%) but the TRR found in juice (1.04 ppm) is much less than the TRR found in grapes (3.06 ppm). Based on these data, no additional factor (including a processing factor) is needed to estimate metalaxyl/mefenoxam residues of concern in grape juice. This conclusion is supported by processing studies which have been conducted for metalaxyl on apples (MRID 00126315; reviewed in the Metalaxyl FRSTR, 9/88), oranges (MRID 00117969; reviewed in the Metalaxyl FRSTR, 9/88), and grapes (MRID 41150101; reviewed in memo by G. Otakie dated 12/11/89, as well as mefenoxam on grapes (45613901.der.doc) which also demonstrate that residues of metalaxyl/mefenoxam convertible to 2,6-DMA do not concentrate in apple, orange, and grape juice samples. Based on the available metalaxyl grape juice metabolism data and supported by

available metalaxyl apple, orange, and metalaxyl/mefenoxam grape processing data, total metalaxyl/mefenoxam residues of concern in these fruit juices are not expected to exceed those estimated in/on the associated fruits; default concentration factors for these fruit juices in the dietary risk assessments should be reduced to 1x.

Livestock Commodities

Livestock dietary burdens were calculated using feedstuffs from both mefenoxam and metalaxyl. Tolerance-level residues were adjusted with available factors to include all residues of concern for risk assessment. The dietary burden calculations are based on *Table 1 Feedstuffs* (June 2008) and were calculated using the Pest Management Regulatory Agency (PMRA) tolerance calculator (Table A.1.3).

The total residues of concern in livestock commodities were estimated from the total radioactive residues (TRR) found in livestock commodities from the available goat and hen metabolism data (Table A.1.4).

Table A.1.1. Metalaxyl wheat flour processing data (from Table 5 of MRID 00114376)

Test No. Test Location Crop	Treatment Rate	Rep	Commodity	Residues (ppm) [1]	Conc. Factor	Comments
6209 MO Winter wheat	Pre-broadcast at 1.0 lb ai/A	B	Grain	0.09	1.4x	Concentration factors (3.2x and 2.5x) based on residue estimates in/on grain at levels below the method's LOQ (0.05) may be unreliable and overestimate the potential for concentration in flour.
			Flour	0.13		
	Pre-broadcast at 2.0 lb ai/A	A	Grain	<0.05 (0.044)	3.2x	
			Flour	0.14		
		B	Grain	0.09	<0.6x	
			Flour	<0.05		
5834 KY Winter wheat	After-planting at 2.0 lb ai/A. Grown as a rotational crop to soybeans treated at 4.0 lb ai/A.	B	Grain	<0.05 (0.032)	2.5x	
			Flour	0.08		

[1] Residue values were reportedly corrected for procedural recoveries but not for control values. The method of analysis was Method AG-348. Residue values in parentheses were provided in MRID 00114376 and are below the method's reported limit of quantitation (0.05 ppm).

Table A.1.2. Metalaxyl plant (primary and rotational crop) metabolism data reflecting foliar treatments only.							
Commodity	**Metabolism Study In-Life Summary**	**TRR (ppm)**	**TRR Identified (%)**	**TRR Identified w/DMA Moiety**		**Comments**	**Conclusions**
				Percent of TRR	**Percent of TRR Identified**		
Leafy Commodities							
Potato foliage	Greenhouse study 6 foliar treatments w/soil covered 1.125 lb ai/A/appl. 7-day PHI	25.9	60	14.4	24	Based on available metalaxyl potato foliage, grape leaf, lettuce (primary/rotational), and wheat stalk (rotational) metabolism data, the combined residues of parent and DMA metabolites constitute 7-65% of the Total Radioactive Residue (TRR) identified. Since all of the residues identified in plants (primary and rotational) are of concern for the dietary risk assessment, a factor of 4x applied to the current/reassessed tolerance levels for all leafy commodities should be adequate to account for all residues of concern for the chronic dietary risk assessment. Note that in lettuce the combined residues of parent and DMA metabolites constitute roughly the same percent of the TRR in primary and rotational lettuce.	For leafy commodities, a factor of 4x should be applied to the current/reassessed tolerance levels used in the chronic dietary risk assessment to account for all residues of concern.
	Field study 6 foliar treatments 1.14lb ai/A/appl. 7-day PHI	31.9	57	4.1	7		
	Field study 4 foliar treatments 0.18 lb ai/A/appl. 35-day PHI	2.35	69	16.2	23		
Grape leaves	Field study 7 foliar treatments appl. rate NR 52-day PHI	30.13	94	25.4	27		
Lettuce	Greenhouse study 4 foliar treatments 0.2 lb ai/A/appl. 7-day PHI	0.67	45	29.4	65		
	Greenhouse study 2 foliar treatments appl. rate NR 14-day PHI	5.47	76	46.5	61		
Rotational Lettuce (immature)	Greenhouse study Primary crop tobacco Pre-plant incorporation; 3 lb ai/A. Rotational crops planted 8 months after treatment.	0.9	51	21.6	42		
Rotational Wheat stalks		7.2	64	13.7	21		
Fruit and Vegetable Commodities							
Potato tuber	Greenhouse study 6 foliar treatments w/soil covered 1.125 lb ai/A/appl. 7-day PHI	0.16	41	34.6	84	Based on available metalaxyl potato tuber, sugar beet root (rotational), and grape metabolism data, the combined residues of parent and DMA metabolites constitute the major portion (76-92%)	For fruit and vegetable commodities, no additional factor needs to be applied to the

Table A.1.2. Metalaxyl plant (primary and rotational crop) metabolism data reflecting foliar treatments only.

Commodity	Metabolism Study In-Life Summary	TRR (ppm)	TRR Identified (%)	TRR Identified w/DMA Moiety		Comments	Conclusions
				Percent of TRR	Percent of TRR Identified		
	Field treated study 6 foliar treatments 1.14lb ai/A/appl. 7-day PHI	0.5	72	61.8	86	of the Total Radioactive Residue (TRR) identified. The current/reassessed tolerance levels for all fruit and vegetable commodities should be adequate to account for all residues of concern for the chronic dietary risk assessment. No additional factor is needed. The available grape presscake metabolism data indicate that the combined residues of parent and DMA metabolites concentrate in wet pomace but still constitute the same portion of the TRR identified. No additional factor is needed. The available grape juice metabolism data indicate that the combined residues of parent and DMA metabolites constitute slightly less of the TRR identified (55%) but the TRR found in juice (1.04 ppm) is much less than the TRR found in grapes (3.06 ppm). No additional factor is needed. Note that the combined residues of parent and DMA metabolites constitute roughly the same percent of the TRR in primary (potato tuber) and rotational (sugar beet root) root/tuber commodities.	current/reassessed tolerance levels used in the chronic dietary risk assessment to account for all residues of concern.
Rotational Sugar beet root	Greenhouse study Primary crop tobacco Pre-plant incorporation; 3 lb ai/A. Rotational crops planted 8 months after treatment	0.3	41	37.9	92		
Grapes	Field study 7 foliar treatments appl. rate NR 52-day PHI	3.06	87	65.9	76		
Grape presscake		7.31	73	57.1	78		
Grape juice		1.04	16	8.8	55		

Table A.1.2. Metalaxyl plant (primary and rotational crop) metabolism data reflecting foliar treatments only.							
Commodity	**Metabolism Study In-Life Summary**	**TRR (ppm)**	**TRR Identified (%)**	**TRR Identified w/DMA Moiety**		**Comments**	**Conclusions**
				Percent of TRR	**Percent of TRR Identified**		
Grain, Seed (including dried beans), and Nut Commodities							
Rotational Wheat grain	Greenhouse study Primary crop tobacco Pre-plant incorporation; 3 lb ai/A. Rotational crops planted 8 months after treatment	0.6	37	1.3	4	Based on available wheat grain (rotational) metabolism data, the combined residues of parent and DMA metabolites constitute 4% of the Total Radioactive Residue (TRR) identified. Since all of the residues identified in plants (primary and rotational) are of concern for the dietary risk assessment, a factor of 25x applied to the current/reassessed tolerance levels for all grain commodities should be adequate to account for all residues of concern for the chronic dietary risk assessment.	For grain commodities, a factor of 25x should be applied to the current/reassessed tolerance levels used in the chronic dietary risk assessment to account for all residues of concern. This same factor (25x) should be translated to all seed (including dried beans) and nut commodities.

Table A.1.3. Dietary Contributions from Both Mefenoxam and Metalaxyl Feed Items									
More Balanced Diet (MBD)									
Crop	Commodity	Type[1]	Residue[2] ppm	input	% DM	% Diet[3] ppm	Dietary Contribution Based on Tolerances[4] ppm	Factor[5]	Dietary Contribution Based on All ROCs[6] ppm
Beef Cattle (R = 15%; CC = 80%; PC = 5%)									
Grass	Hay	R	25	T	88	15	4.26	4	17.04
Potato	Process Waste	CC	4	T	12	30	10.00	1	10.00
Beet, sugar	Molasses	CC	1	T	75	10	0.13	1	0.13
Wheat	Milled byproducts	CC	1	T	88	40	0.45	25	11.25
Soybean	Meal	PC	2	T	92	5	0.11	25	2.75
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**100**	**14.96**		**41.17**
Dairy Cattle (R = 45%; CC = 45%; PC = 10%)									
Grass	Forage	R	10	T	25	45	18.00	4	72.00
Potato	Process Waste	CC	4	T	12	10	3.33	1	3.33
Turnip	Root	CC	0.5	T	15	10	0.33	1	0.33
Beet, sugar	Molasses	CC	1	T	75	10	0.13	1	0.13
Wheat	Milled byproducts	CC	1	T	88	15	0.17	25	4.25
Alfalfa	Meal	PC	20	T	89	10	2.25	4	9.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**100**	**24.22**		**89.04**
Poultry (CC = 75%; PC = 25%)									
Wheat	Milled byproducts	CC	1	T	88	50	0.50	25	12.50
Barley	Grain	CC	0.2	T	88	25	0.05	25	1.25
Alfalfa	Meal	PC	20	T	89	5	1.00	4	4.00
Soybean	Meal	PC	2	T	92	20	0.40	25	10.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**100**	**1.95**		**27.75**
Swine (CC = 85%; PC = 15%)									
Oats, Hulless	Grain	CC	1	T	88	85	0.85	25	21.25
Alfalfa	Meal	PC	20	T	89	5	1.00	4	4.00
Soybean	Meal	PC	2	T	92	10	0.20	25	5.00
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**100**	**2.05**		**30.25**

[1] R: Roughage; CC: Carbohydrate concentrate; PC: Protein concentrate.
[2] Residue inputs for canola and flax are all tolerance-level residues since residues were all <0.05 ppm (<LOQ). Residue inputs for other crops are tolerance levels since median and highest residue (HR) data are not readily available for older petitions.
[3] Table 1 Feedstuffs (July 2008).
[4] Contribution = ([tolerance /% DM] X % diet) for beef and dairy cattle; contribution = ([tolerance] X % diet) for poultry and swine.
[5] Factors used to estimate total residues of concern in plant commodities for dietary/risk assessment. See Table A.1.2 and the discussion under plant commodities above.
[6] All residues of concern (ROCs) are included in this dietary burden calculation.

Table A.1.4. Estimated Total Metalaxyl/Mefenoxam Residues of Concern in Livestock Commodities from Metalaxyl/Metabolism Data.

Commodity	Metabolism Study In-Life summary	Metabolism Study Dose Relative to the Livestock Dietary Burden Estimate from Table A.1.3	Maximum TRR Found in Metabolism Study (ppm)	Maximum Residues Estimated at 1x the Livestock Dietary Burden Estimate (ppm)
Milk	Goat Metabolism Two goats 4 days at 76.9 ppm	0.86x	0.089	0.10
Liver			1.915	2.23
Kidney			2.296	2.67
Muscle			0.138	0.16
Fat			0.400	0.47
Liver	Poultry Metabolism Five hens 4 days at 100 ppm	3.60x	1.4	0.39
Egg	Poultry Metabolism Five hens 5 days at 100 ppm		0.4	0.11
Thigh			0.7	0.19
Fat			0.3	0.083

Attachment 2. Acute Residue Input File

```
Filename: C:\Documents and Settings\NDODD\My Documents\DEEM Version 3.16\Metalaxyl\MEFENOXAM
METALAXYL ACUTE FOOD AND WATER 102215.R08
Chemical: Metalaxyl
RfD(Chronic): 0 mg/kg bw/day  NOEL(Chronic): 0 mg/kg bw/day
RfD(Acute): .5 mg/kg bw/day  NOEL(Acute):  50 mg/kg bw/day
Date created/last modified: 10-22-2015/15:12:12       Program ver. 3.16, 03-08-d
-------------------------------------------------------------------------------
RDL indices and parameters for Monte Carlo Analysis:
Index Dist Parameter #1        Param #2  Param #3  Comment
  #   Code
----- ---- ------------        --------  --------  -------
  1    6   mefenoxam NC cotton.RDF

   EPA     Crop Commodity Name                    Def Res     Adj.Factors  RDLComment
   Code     Grp                                    (ppm)       #1     #2   Pntr
---------- ---- --------------------------------  ----------  ------ ------ ---  -------
0101050000 1AB  Beet, garden, roots                0.500000   1.000  1.000
0101050001 1AB  Beet, garden, roots-babyfood       0.500000   1.000  1.000
0101052000 1A   Beet, sugar                        0.500000   1.000  1.000
0101052001 1A   Beet, sugar-babyfood               0.500000   1.000  1.000
0101053000 1A   Beet, sugar, molasses              1.000000   1.000  1.000
0101053001 1A   Beet, sugar, molasses-babyfood     1.000000   1.000  1.000
0101067000 1AB  Burdock                            0.500000   1.000  1.000
0101078000 1AB  Carrot                            0.500000   1.000  1.000
0101078001 1AB  Carrot-babyfood                    0.500000   1.000  1.000
0101079000 1AB  Carrot, juice                      0.500000   1.000  1.000
0101084000 1AB  Celeriac                           0.500000   1.000  1.000
0101100000 1AB  Chicory, roots                     0.500000   1.000  1.000
0101168000 1AB  Ginseng, dried                     3.000000   1.000  1.000
0101190000 1AB  Horseradish                       0.500000   1.000  1.000
0101250000 1AB  Parsley, turnip rooted            0.500000   1.000  1.000
0101251000 1AB  Parsnip                           0.500000   1.000  1.000
0101251001 1AB  Parsnip-babyfood                  0.500000   1.000  1.000
0101314000 1AB  Radish, roots                     0.500000   1.000  1.000
0101316000 1AB  Radish, Oriental, roots          0.500000   1.000  1.000
0101327000 1AB  Rutabaga                         0.500000   1.000  1.000
0101331000 1AB  Salsify, roots                   0.500000   1.000  1.000
0101388000 1AB  Turnip, roots                    0.500000   1.000  1.000
0103015000 1CD  Arrowroot, flour                  0.500000   1.000  1.000
0103015001 1CD  Arrowroot, flour-babyfood        0.500000   1.000  1.000
0103017000 1CD  Artichoke, Jerusalem             0.500000   1.000  1.000
0103082000 1CD  Cassava                          0.500000   1.000  1.000
0103082001 1CD  Cassava-babyfood                 0.500000   1.000  1.000
0103139000 1CD  Dasheen, corm                    0.500000   1.000  1.000
0103166000 1CD  Ginger                           0.500000   1.000  1.000
0103166001 1CD  Ginger-babyfood                  0.500000   1.000  1.000
0103167000 1CD  Ginger, dried                    0.500000   1.000  1.000
0103296000 1C   Potato, chips                    4.000000   1.000  1.000
0103297000 1C   Potato, dry (granules/ flakes)   4.000000   1.000  1.000
0103297001 1C   Potato, dry (granules/ flakes)-b 4.000000   1.000  1.000
0103298000 1C   Potato, flour                    4.000000   1.000  1.000
0103298001 1C   Potato, flour-babyfood           4.000000   1.000  1.000
0103299000 1C   Potato, tuber, w/peel            0.500000   1.000  1.000
0103299001 1C   Potato, tuber, w/peel-babyfood   0.500000   1.000  1.000
0103300000 1C   Potato, tuber, w/o peel          0.500000   1.000  1.000
0103300001 1C   Potato, tuber, w/o peel-babyfood 0.500000   1.000  1.000
0103366000 1CD  Sweet potato                     0.500000   1.000  1.000
0103366001 1CD  Sweet potato-babyfood            0.500000   1.000  1.000
0103371000 1CD  Tanier, corm                     0.500000   1.000  1.000
0103387000 1CD  Turmeric                        0.500000   1.000  1.000
0103406000 1CD  Yam, true                       0.500000   1.000  1.000
0103407000 1CD  Yam bean                        0.500000   1.000  1.000
0200051000 2    Beet, garden, tops              60.000000   1.000  1.000      res =
    Full comment: res = tol (15) x 4
0200101000 2    Chicory, tops                   60.000000   1.000  1.000      res =
    Full comment: res = tol (15) x 4
0200140000 2    Dasheen, leaves                 60.000000   1.000  1.000      res =
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    Full comment: res = tol (15) x 4
0200315000 2    Radish, tops                        60.000000   1.000  1.000      res =
    Full comment: res = tol (15) x 4
0200317000 2    Radish, Oriental, tops              60.000000   1.000  1.000      res =
    Full comment: res = tol (15) x 4
0200332000 2    Salsify, tops                       60.000000   1.000  1.000      res =
    Full comment: res = tol (15) x 4
0301165000 3A   Garlic, bulb                         3.000000   1.000  1.000
0301165001 3A   Garlic, bulb-babyfood                3.000000   1.000  1.000
0301237000 3A   Onion, bulb                          3.000000   1.000  1.000
0301237001 3A   Onion, bulb-babyfood                 3.000000   1.000  1.000
0301238000 3A   Onion, bulb, dried                   3.000000   9.000  1.000
0301238001 3A   Onion, bulb, dried-babyfood          3.000000   9.000  1.000
0302103000 3B   Chive, fresh leaves
                   110-Uncooked; Fresh or N/S; Cook Meth N/S
                                                    32.000000   1.000  1.000      res =
            Full comment: res = tol (8) x 4
                   210-Cooked; Fresh or N/S; Cook Meth N/S
                                                    32.000000   1.000  1.000      res =
            Full comment: res = tol (8) x 4
                   211-Cooked; Fresh or N/S; Baked
                                                    32.000000   1.000  1.000      res =
            Full comment: res = tol (8) x 4
                   212-Cooked; Fresh or N/S; Boiled
                                                    32.000000   1.000  1.000      res =
            Full comment: res = tol (8) x 4
                   213-Cooked; Fresh or N/S; Fried
                                                    32.000000   1.000  1.000      res =
            Full comment: res = tol (8) x 4
                   220-Cooked; Frozen; Cook Meth N/S
                                                    32.000000   1.000  1.000      res =
            Full comment: res = tol (8) x 4
                   221-Cooked; Frozen; Baked        32.000000   1.000  1.000      res =
            Full comment: res = tol (8) x 4
                   240-Cooked; Canned; Cook Meth N/S
                                                   220.000000   1.000  1.000      res =
            Full comment: res = tol (55) x 4
                   242-Cooked; Canned; Boiled      220.000000   1.000  1.000      res =
            Full comment: res = tol (55) x 4
0302198000 3B   Leek                                10.000000   1.000  1.000
0302239000 3B   Onion, green                         10.000000   1.000  1.000
0302338500 3B   Shallot, fresh leaves                3.000000   1.000  1.000
0401005000 4A   Amaranth, leafy                     20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0401018000 4A   Arugula                             20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0401104000 4A   Chrysanthemum, garland              20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0401133000 4A   Cress, garden                       20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0401134000 4A   Cress, upland                       20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0401138000 4A   Dandelion, leaves                   20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0401150000 4A   Endive                              20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0401204000 4A   Lettuce, head                       20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0401205000 4A   Lettuce, leaf                       20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0401248000 4A   Parsley, leaves                     20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0401313000 4A   Radicchio                           20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0401355000 4A   Spinach                             40.000000   1.000  1.000      res =
    Full comment: res = tol (10) x 4
0401355001 4A   Spinach-babyfood                    40.000000   1.000  1.000      res =
    Full comment: res = tol (10) x 4
0402076000 4B   Cardoon                             20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
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0402085000 4B   Celery                              20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0402085001 4B   Celery-babyfood                     20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0402086000 4B   Celery, juice                       20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0402087000 4B   Celtuce                             20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0402152000 4B   Fennel, Florence                    20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0402322000 4B   Rhubarb                             20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0402367000 4B   Swiss chard                         20.000000   1.000  1.000      res =
    Full comment: res = tol (5) x 4
0501061000 5A   Broccoli                             2.000000   1.000  1.000
0501061001 5A   Broccoli-babyfood                    2.000000   1.000  1.000
0501062000 5A   Broccoli, Chinese                    2.000000   1.000  1.000
0501064000 5A   Brussels sprouts                     2.000000   1.000  1.000
0501069000 5A   Cabbage                              4.000000   1.000  1.000      res =
    Full comment: res = tol (1) x 4
0501071000 5A   Cabbage, Chinese, napa               4.000000   1.000  1.000      res =
    Full comment: res = tol (1) x 4
0501072000 5A   Cabbage, Chinese, mustard            4.000000   1.000  1.000      res =
    Full comment: res = tol (1) x 4
0501083000 5A   Cauliflower                          1.000000   1.000  1.000
0501196000 5A   Kohlrabi                             0.400000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 4
0502063000 5B   Broccoli raab                        2.000000   1.000  1.000
0502070000 5B   Cabbage, Chinese, bok choy           4.000000   1.000  1.000      res =
    Full comment: res = tol (1) x 4
0502117000 5B   Collards                             0.400000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 4
0502194000 5B   Kale                                 0.400000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 4
0502229000 5B   Mustard greens                      20.000000   1.000  1.000      res =
    Full comment: res = tol (5.0) x 4
0502318000 5B   Rape greens                          0.400000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 4
0502389000 5B   Turnip, greens                      60.000000   1.000  1.000      res =
    Full comment: res = tol (15) x 4
0600347000 6    Soybean, seed                        1.000000   1.000  1.000
0600349000 6    Soybean, soy milk                    1.000000   1.000  1.000
0600349001 6    Soybean, soy milk-babyfood or in     1.000000   1.000  1.000
0600350000 6    Soybean, oil                         1.000000   1.000  1.000
0600350001 6    Soybean, oil-babyfood                1.000000   1.000  1.000
0601043000 6A   Bean, snap, succulent                0.360000   1.000  1.000      res =
    Full comment: res = tol (0.2) x 1.8  DP371307
0601043001 6A   Bean, snap, succulent-babyfood       0.360000   1.000  1.000      res =
    Full comment: res = tol (0.2) x 1.8  DP371307
0601257000 6A   Pea, edible podded, succulent        0.200000   1.000  1.000
0602031000 6B   Bean, broad, succulent               0.200000   1.000  1.000
0602033000 6B   Bean, cowpea, succulent              0.200000   1.000  1.000
0602037000 6B   Bean, lima, succulent                0.200000   1.000  1.000
0602255000 6B   Pea, succulent                       0.200000   1.000  1.000
0602255001 6B   Pea, succulent-babyfood              0.200000   1.000  1.000
0602259000 6B   Pea, pigeon, succulent               0.200000   1.000  1.000
0603030000 6C   Bean, black, seed                    5.000000   1.000  1.000      res =
    Full comment: res = tol (0.2) x 25
0603032000 6C   Bean, broad, seed                    5.000000   1.000  1.000      res =
    Full comment: res = tol (0.2) x 25
0603034000 6C   Bean, cowpea, seed                   5.000000   1.000  1.000      res =
    Full comment: res = tol (0.2) x 25
0603035000 6C   Bean,  great northern, seed          5.000000   1.000  1.000      res =
    Full comment: res = tol (0.2) x 25
0603036000 6C   Bean, kidney, seed                   5.000000   1.000  1.000      res =
    Full comment: res = tol (0.2) x 25
0603038000 6C   Bean, lima, seed                     5.000000   1.000  1.000      res =
    Full comment: res = tol (0.2) x 25
0603039000 6C   Bean, mung, seed                     5.000000   1.000  1.000      res =
    Full comment: res = tol (0.2) x 25
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0603040000	6C	Bean, navy, seed	5.000000	1.000	1.000	res =
		Full comment: res = tol (0.2) x 25				
0603041000	6C	Bean, pink, seed	5.000000	1.000	1.000	res =
		Full comment: res = tol (0.2) x 25				
0603042000	6C	Bean, pinto, seed	5.000000	1.000	1.000	res =
		Full comment: res = tol (0.2) x 25				
0603098000	6C	Chickpea, seed	5.000000	1.000	1.000	res =
		Full comment: res = tol (0.2) x 25				
0603098001	6C	Chickpea, seed-babyfood	5.000000	1.000	1.000	res =
		Full comment: res = tol (0.2) x 25				
0603099000	6C	Chickpea, flour	5.000000	1.000	1.000	res =
		Full comment: res = tol (0.2) x 25				
0603182000	6C	Guar, seed	5.000000	1.000	1.000	res =
		Full comment: res = tol (0.2) x 25				
0603182001	6C	Guar, seed-babyfood	5.000000	1.000	1.000	res =
		Full comment: res = tol (0.2) x 25				
0603203000	6C	Lentil, seed	5.000000	1.000	1.000	res =
		Full comment: res = tol (0.2) x 25				
0603256000	6C	Pea, dry	5.000000	1.000	1.000	res =
		Full comment: res = tol (0.2) x 25				
0603256001	6C	Pea, dry-babyfood	5.000000	1.000	1.000	res =
		Full comment: res = tol (0.2) x 25				
0603258000	6C	Pea, pigeon, seed	5.000000	1.000	1.000	res =
		Full comment: res = tol (0.2) x 25				
0603348000	6C	Soybean, flour	1.000000	1.000	1.000	
0603348001	6C	Soybean, flour-babyfood	1.000000	1.000	1.000	
0801374000	8A	Tomatillo	1.000000	1.000	1.000	
0801375000	8A	Tomato	1.000000	1.000	1.000	
0801375001	8A	Tomato-babyfood	1.000000	1.000	1.000	
0801376000	8A	Tomato, paste	3.000000	1.000	1.000	
0801376001	8A	Tomato, paste-babyfood	3.000000	1.000	1.000	
0801377000	8A	Tomato, puree	3.000000	1.000	1.000	
0801377001	8A	Tomato, puree-babyfood	3.000000	1.000	1.000	
0801378000	8A	Tomato, dried	1.000000	14.300	1.000	
0801378001	8A	Tomato, dried-babyfood	1.000000	14.300	1.000	
0801379000	8A	Tomato, juice	1.000000	1.500	1.000	
0802148000	8BC	Eggplant	1.000000	1.000	1.000	
0802234000	8BC	Okra	1.000000	1.000	1.000	
0802270000	8B	Pepper, bell	1.000000	1.000	1.000	
0802270001	8B	Pepper, bell-babyfood	1.000000	1.000	1.000	
0802271000	8B	Pepper, bell, dried	1.000000	1.000	1.000	
0802271001	8B	Pepper, bell, dried-babyfood	1.000000	1.000	1.000	
0802272000	8BC	Pepper, nonbell	1.000000	1.000	1.000	
0802272001	8BC	Pepper, nonbell-babyfood	1.000000	1.000	1.000	
0802273000	8BC	Pepper, nonbell, dried	1.000000	1.000	1.000	
0901075000	9A	Cantaloupe	1.000000	1.000	1.000	
0901187000	9A	Honeydew melon	1.000000	1.000	1.000	
0901399000	9A	Watermelon	1.000000	1.000	1.000	
0901400000	9A	Watermelon, juice	1.000000	1.000	1.000	
0902021000	9B	Balsam pear	1.000000	1.000	1.000	
0902088000	9B	Chayote, fruit	1.000000	1.000	1.000	
0902102000	9B	Chinese waxgourd	1.000000	1.000	1.000	
0902135000	9B	Cucumber	1.000000	1.000	1.000	
0902308000	9B	Pumpkin	1.000000	1.000	1.000	
0902309000	9B	Pumpkin, seed	1.000000	1.000	1.000	
0902356000	9B	Squash, summer	1.000000	1.000	1.000	
0902356001	9B	Squash, summer-babyfood	1.000000	1.000	1.000	
0902357000	9B	Squash, winter	1.000000	1.000	1.000	
0902357001	9B	Squash, winter-babyfood	1.000000	1.000	1.000	
1001106000	10A	Citron	1.000000	1.000	1.000	
1001107000	10A	Citrus hybrids	1.000000	1.000	1.000	
1001108000	10A	Citrus, oil	7.000000	1.000	1.000	
1001240000	10A	Orange	1.000000	1.000	1.000	
1001241000	10A	Orange, juice	1.000000	1.000	1.000	
1001241001	10A	Orange, juice-babyfood	1.000000	1.000	1.000	
1001242000	10A	Orange, peel	1.000000	1.000	1.000	
1001369000	10A	Tangerine	1.000000	1.000	1.000	
1001370000	10A	Tangerine, juice	1.000000	1.000	1.000	
1002197000	10B	Kumquat	1.000000	1.000	1.000	
1002199000	10B	Lemon	1.000000	1.000	1.000	

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1002200000 10B  Lemon, juice                        1.000000   1.000  1.000
1002200001 10B  Lemon, juice-babyfood               1.000000   1.000  1.000
1002201000 10B  Lemon, peel                         1.000000   1.000  1.000
1002206000 10B  Lime                                1.000000   1.000  1.000
1002207000 10B  Lime, juice                         1.000000   1.000  1.000
1002207001 10B  Lime, juice-babyfood                1.000000   1.000  1.000
1003180000 10C  Grapefruit                          1.000000   1.000  1.000
1003181000 10C  Grapefruit, juice                   1.000000   1.000  1.000
1003307000 10C  Pummelo                             1.000000   1.000  1.000
1100007000 11   Apple, fruit with peel              0.200000   1.000  1.000
1100008000 11   Apple, peeled fruit                 0.200000   1.000  1.000
1100008001 11   Apple, peeled fruit-babyfood        0.200000   1.000  1.000
1100009000 11   Apple, dried                        0.200000   8.000  1.000
1100009001 11   Apple, dried-babyfood               0.200000   8.000  1.000
1100010000 11   Apple, juice                        0.200000   1.000  1.000
1100010001 11   Apple, juice-babyfood               0.200000   1.000  1.000
1100011000 11   Apple, sauce                        0.200000   1.000  1.000
1100011001 11   Apple, sauce-babyfood               0.200000   1.000  1.000
1201090000 12A  Cherry                              1.000000   1.000  1.000
1201090001 12A  Cherry-babyfood                     1.000000   1.000  1.000
1201091000 12A  Cherry, juice                       1.000000   1.500  1.000
1201091001 12A  Cherry, juice-babyfood              1.000000   1.500  1.000
1202012000 12B  Apricot                             1.000000   1.000  1.000
1202012001 12B  Apricot-babyfood                    1.000000   1.000  1.000
1202013000 12B  Apricot, dried                      4.000000   1.000  1.000
1202014000 12B  Apricot, juice                      1.000000   1.000  1.000
1202014001 12B  Apricot, juice-babyfood             1.000000   1.000  1.000
1202230000 12B  Nectarine                           1.000000   1.000  1.000
1202260000 12B  Peach                               1.000000   1.000  1.000
1202260001 12B  Peach-babyfood                      1.000000   1.000  1.000
1202261000 12B  Peach, dried                        1.000000   7.000  1.000
1202261001 12B  Peach, dried-babyfood               1.000000   7.000  1.000
1202262000 12B  Peach, juice                        1.000000   1.000  1.000
1202262001 12B  Peach, juice-babyfood               1.000000   1.000  1.000
1203285000 12C  Plum                                1.000000   1.000  1.000
1203285001 12C  Plum-babyfood                       1.000000   1.000  1.000
1203286000 12C  Plum, prune, fresh                  1.000000   1.000  1.000
1203286001 12C  Plum, prune, fresh-babyfood         1.000000   1.000  1.000
1203287000 12C  Plum, prune, dried                  4.000000   1.000  1.000
1203287001 12C  Plum, prune, dried-babyfood         4.000000   1.000  1.000
1203288000 12C  Plum, prune, juice                  1.000000   1.400  1.000
1203288001 12C  Plum, prune, juice-babyfood         1.000000   1.400  1.000
1301055000 13A  Blackberry                          0.910000   1.000  1.000      res =
    Full comment: res = tol (0.7) x 1.3
1301056000 13A  Blackberry, juice                   0.910000   1.000  1.000      res =
    Full comment: res = tol (0.7) x 1.3
1301056001 13A  Blackberry, juice-babyfood          0.910000   1.000  1.000      res =
    Full comment: res = tol (0.7) x 1.3
1301058000 13A  Boysenberry                         0.910000   1.000  1.000      res =
    Full comment: res = tol (0.7) x 1.3
1301208000 13A  Loganberry                          0.910000   1.000  1.000      res =
    Full comment: res = tol (0.7) x 1.3
1301320000 13A  Raspberry                           0.910000   1.000  1.000      res =
    Full comment: res = tol (0.7) x 1.3
1301320001 13A  Raspberry-babyfood                  0.910000   1.000  1.000      res =
    Full comment: res = tol (0.7) x 1.3
1301321000 13A  Raspberry, juice                    0.910000   1.000  1.000      res =
    Full comment: res = tol (0.7) x 1.3
1301321001 13A  Raspberry, juice-babyfood           0.910000   1.000  1.000      res =
    Full comment: res = tol (0.7) x 1.3
1302057000 13B  Blueberry                           2.000000   1.000  1.000
1302057001 13B  Blueberry-babyfood                  2.000000   1.000  1.000
1302136000 13B  Currant                            2.000000   1.000  1.000
1302137000 13B  Currant, dried                     2.000000   1.000  1.000
1302149000 13B  Elderberry                         2.000000   1.000  1.000
1302174000 13B  Gooseberry                         2.000000   1.000  1.000
1302191000 13B  Huckleberry                        2.000000   1.000  1.000
1304175000 13D  Grape                              2.000000   1.000  1.000
1304176000 13D  Grape, juice                       2.000000   1.000  1.000
1304176001 13D  Grape, juice-babyfood              2.000000   1.000  1.000
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1304195000 13D  Kiwifruit, fuzzy                  0.100000   1.000  1.000
1307130000 13G  Cranberry                         4.000000   1.000  1.000
1307130001 13G  Cranberry-babyfood                4.000000   1.000  1.000
1307131000 13G  Cranberry, dried                  4.000000   1.000  1.000
1307132000 13G  Cranberry, juice                  4.000000   1.100  1.000
1307132001 13G  Cranberry, juice-babyfood        4.000000   1.100  1.000
1307359000 13G  Strawberry                       10.000000   1.000  1.000
1307359001 13G  Strawberry-babyfood             10.000000   1.000  1.000
1307360000 13G  Strawberry, juice               10.000000   1.000  1.000
1307360001 13G  Strawberry, juice-babyfood      10.000000   1.000  1.000
1400003000 14   Almond                          12.500000   1.000  1.000      res =
    Full comment: res = tol (0.5) x 25
1400003001 14   Almond-babyfood                 12.500000   1.000  1.000      res =
    Full comment: res = tol (0.5) x 25
1400004000 14   Almond, oil                     12.500000   1.000  1.000      res =
    Full comment: res = tol (0.5) x 25
1400004001 14   Almond, oil-babyfood            12.500000   1.000  1.000      res =
    Full comment: res = tol (0.5) x 25
1400391000 14   Walnut                          12.500000   1.000  1.000
1500025000 15   Barley, pearled barley           5.000000   1.000  1.000      res =
    Full comment: res = grain tol (0.2) x 25
1500025001 15   Barley, pearled barley-babyfood  5.000000   1.000  1.000      res =
    Full comment: res = grain tol (0.2) x 25
1500026000 15   Barley, flour                    5.000000   1.000  1.000      res =
    Full comment: res = grain tol (0.2) x 25
1500026001 15   Barley, flour-babyfood           5.000000   1.000  1.000      res =
    Full comment: res = grain tol (0.2) x 25
1500027000 15   Barley, bran                    25.000000   1.000  1.000      res =
    Full comment: res = tol (1.0) x 25
1500065000 15   Buckwheat                        2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500066000 15   Buckwheat, flour                 2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500120000 15   Corn, field, flour               2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500120001 15   Corn, field, flour-babyfood      2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500121000 15   Corn, field, meal                2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500121001 15   Corn, field, meal-babyfood       2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500122000 15   Corn, field, bran                2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500123000 15   Corn, field, starch              2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500123001 15   Corn, field, starch-babyfood     2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500124000 15   Corn, field, syrup               2.500000   1.500  1.000      res =
    Full comment: res = tol (0.1) x 25
1500124001 15   Corn, field, syrup-babyfood      2.500000   1.500  1.000      res =
    Full comment: res = tol (0.1) x 25
1500125000 15   Corn, field, oil                 2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500125001 15   Corn, field, oil-babyfood        2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500126000 15   Corn, pop                        2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500127000 15   Corn, sweet                      2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500127001 15   Corn, sweet-babyfood             2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500226000 15   Millet, grain                    2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500231000 15   Oat, bran                        5.000000   1.000  1.000      res =
    Full comment: res = grain tol (0.2) x 25
1500232000 15   Oat, flour                       5.000000   1.000  1.000      res =
    Full comment: res = grain tol (0.2) x 25
1500232001 15   Oat, flour-babyfood              5.000000   1.000  1.000      res =
    Full comment: res = grain tol (0.2) x 25
1500233000 15   Oat, groats/rolled oats          5.000000   1.000  1.000      res =
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    Full comment: res = grain tol (0.2) x 25
1500233001 15   Oat, groats/rolled oats-babyfood   5.000000   1.000  1.000      res =
    Full comment: res = grain tol (0.2) x 25
1500323000 15   Rice, white                         2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500323001 15   Rice, white-babyfood                2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500324000 15   Rice, brown                         2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500324001 15   Rice, brown-babyfood                2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500325000 15   Rice, flour                         2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500325001 15   Rice, flour-babyfood                2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500326000 15   Rice, bran                          2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500326001 15   Rice, bran-babyfood                 2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500328000 15   Rye, grain                          2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500329000 15   Rye, flour                          2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500344000 15   Sorghum, grain                      2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500345000 15   Sorghum, syrup                      2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500381000 15   Triticale, flour                    2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500381001 15   Triticale, flour-babyfood           2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1500401000 15   Wheat, grain                        5.000000   1.000  1.000      res =
    Full comment: res = grain tol (0.2) x 25
1500401001 15   Wheat, grain-babyfood               5.000000   1.000  1.000      res =
    Full comment: res = grain tol (0.2) x 25
1500402000 15   Wheat, flour                        5.000000   1.000  1.000      res =
    Full comment: res = grain tol (0.2) x 25
1500402001 15   Wheat, flour-babyfood               5.000000   1.000  1.000      res =
    Full comment: res = grain tol (0.2) x 25
1500403000 15   Wheat, germ                        25.000000   1.000  1.000      res =
    Full comment: res = tol (1.0) x 25
1500404000 15   Wheat, bran                        25.000000   1.000  1.000      res =
    Full comment: res = tol (1.0) x 25
1500405000 15   Wild rice                           2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
1901028000 19A  Basil, fresh leaves                32.000000   1.000  1.000      res =
    Full comment: res = tol (8.0) x 4
1901028001 19A  Basil, fresh leaves-babyfood       32.000000   1.000  1.000      res =
    Full comment: res = tol (8.0) x 4
1901029000 19A  Basil, dried leaves               220.000000   1.000  1.000      res =
    Full comment: res = tol (55) x 4
1901029001 19A  Basil, dried leaves-babyfood      220.000000   1.000  1.000      res =
    Full comment: res = tol (55) x 4
1901118000 19A  Cilantro, leaves
                   110-Uncooked; Fresh or N/S; Cook Meth N/S
                                                  32.000000   1.000  1.000      res =
            Full comment: res = tol (8) x 4
                   150-Uncooked; Cured etc; Cook Meth N/S
                                                  32.000000   1.000  1.000      res =
            Full comment: res = tol (8) x 4
                   204-Cooked; FF N/A; Fried/baked
                                                  32.000000   1.000  1.000      res =
            Full comment: res = tol (8) x 4
                   210-Cooked; Fresh or N/S; Cook Meth N/S
                                                  32.000000   1.000  1.000      res =
            Full comment: res = tol (8) x 4
                   211-Cooked; Fresh or N/S; Baked
                                                  32.000000   1.000  1.000      res =
            Full comment: res = tol (8) x 4
                   212-Cooked; Fresh or N/S; Boiled
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                                          32.000000   1.000  1.000      res =
          Full comment: res = tol (8) x 4
                 213-Cooked; Fresh or N/S; Fried
                                          32.000000   1.000  1.000      res =
          Full comment: res = tol (8) x 4
                 214-Cooked; Fresh or N/S; Fried/baked
                                          32.000000   1.000  1.000      res =
          Full comment: res = tol (8) x 4
                 221-Cooked; Frozen; Baked     220.000000   1.000  1.000      res =
          Full comment: res = tol (55) x 4
                 230-Cooked; Dried; Cook Meth N/S
                                          220.000000   1.000  1.000      res =
          Full comment: res = tol (55) x 4
                 232-Cooked; Dried; Boiled     220.000000   1.000  1.000      res =
          Full comment: res = tol (55) x 4
                 240-Cooked; Canned; Cook Meth N/S
                                          220.000000   1.000  1.000      res =
          Full comment: res = tol (55) x 4
                 242-Cooked; Canned; Boiled    220.000000   1.000  1.000      res =
          Full comment: res = tol (55) x 4
                 250-Cooked; Cured etc; Cook Meth N/S
                                          220.000000   1.000  1.000      res =
          Full comment: res = tol (55) x 4
                 252-Cooked; Cured etc; Boiled 220.000000   1.000  1.000      res =
          Full comment: res = tol (55) x 4
1901118001 19A  Cilantro, leaves-babyfood        220.000000   1.000  1.000      res =
    Full comment: res = tol (55) x 4
1901184000 19A  Herbs, other                     220.000000   1.000  1.000      res =
    Full comment: res = tol (55) x 4
1901184001 19A  Herbs, other-babyfood            220.000000   1.000  1.000      res =
    Full comment: res = tol (55) x 4
1901202000 19A  Lemongrass                       220.000000   1.000  1.000      res =
    Full comment: res = tol (55) x 4
1901220001 19A  Marjoram-babyfood                220.000000   1.000  1.000      res =
    Full comment: res = tol (55) x 4
1901249001 19A  Parsley, dried leaves-babyfood   220.000000   1.000  1.000      res =
    Full comment: res = tol (55) x 4
2001163000 20A  Flax seed, oil                     0.100000   1.000  1.000
2001319000 20A  Rapeseed, oil                      0.100000   1.000  1.000
2001319001 20A  Rapeseed, oil-babyfood             0.100000   1.000  1.000
2001336000 20A  Sesame, seed                       0.100000   1.000  1.000
2001336001 20A  Sesame, seed-babyfood             0.100000   1.000  1.000
2001337000 20A  Sesame, oil                        0.100000   1.000  1.000
2001337001 20A  Sesame, oil-babyfood               0.100000   1.000  1.000
2002364000 20B  Sunflower, seed                    0.100000   1.000  1.000
2002365000 20B  Sunflower, oil                     0.100000   1.000  1.000
2002365001 20B  Sunflower, oil-babyfood            0.100000   1.000  1.000
2003128000 20C  Cottonseed, oil                    2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
2003128001 20C  Cottonseed, oil-babyfood          2.500000   1.000  1.000      res =
    Full comment: res = tol (0.1) x 25
3100044000 31   Beef, meat                        0.160000   1.000  1.000      Reason
    Full comment: Reasonably Balanced Diet (RBD)
3100044001 31   Beef, meat-babyfood              0.160000   1.000  1.000      RBD
3100045000 31   Beef, meat, dried                0.160000   1.920  1.000      RBD
3100046000 31   Beef, meat byproducts            2.670000   1.000  1.000      RBD
3100046001 31   Beef, meat byproducts-babyfood   2.670000   1.000  1.000      RBD
3100047000 31   Beef, fat                        0.470000   1.000  1.000      RBD
3100047001 31   Beef, fat-babyfood               0.470000   1.000  1.000      RBD
3100048000 31   Beef, kidney                     2.670000   1.000  1.000      RBD
3100049000 31   Beef, liver                      2.230000   1.000  1.000      RBD
3100049001 31   Beef, liver-babyfood             2.230000   1.000  1.000      RBD
3200169000 32   Goat, meat                       0.160000   1.000  1.000      RBD
3200170000 32   Goat, meat byproducts            2.670000   1.000  1.000      RBD
3200171000 32   Goat, fat                        0.470000   1.000  1.000      RBD
3200172000 32   Goat, kidney                     2.670000   1.000  1.000      RBD
3200173000 32   Goat, liver                      2.230000   1.000  1.000      RBD
3300189000 33   Horse, meat                      0.160000   1.000  1.000
3400290000 34   Pork, meat                       0.160000   1.000  1.000      RBD
3400290001 34   Pork, meat-babyfood              0.160000   1.000  1.000      RBD
```

3400291000	34	Pork, skin	2.670000	1.000	1.000		RBD
3400292000	34	Pork, meat byproducts	2.670000	1.000	1.000		RBD
3400292001	34	Pork, meat byproducts-babyfood	2.670000	1.000	1.000		RBD
3400293000	34	Pork, fat	0.470000	1.000	1.000		RBD
3400293001	34	Pork, fat-babyfood	0.470000	1.000	1.000		RBD
3400294000	34	Pork, kidney	2.670000	1.000	1.000		RBD
3400295000	34	Pork, liver	2.230000	1.000	1.000		RBD
3500339000	35	Sheep, meat	0.160000	1.000	1.000		RBD
3500339001	35	Sheep, meat-babyfood	0.160000	1.000	1.000		RBD
3500340000	35	Sheep, meat byproducts	2.670000	1.000	1.000		RBD
3500341000	35	Sheep, fat	0.470000	1.000	1.000		RBD
3500341001	35	Sheep, fat-babyfood	0.470000	1.000	1.000		RBD
3500342000	35	Sheep, kidney	2.670000	1.000	1.000		RBD
3500343000	35	Sheep, liver	2.230000	1.000	1.000		RBD
3600222000	36	Milk, fat	0.100000	1.000	1.000		RBD
3600222001	36	Milk, fat-baby food/infant formu	0.100000	1.000	1.000		RBD
3600223000	36	Milk, nonfat solids	0.100000	1.000	1.000		RBD
3600223001	36	Milk, nonfat solids-baby food/in	0.100000	1.000	1.000		RBD
3600224000	36	Milk, water	0.100000	1.000	1.000		RBD
3600224001	36	Milk, water-babyfood/infant form	0.100000	1.000	1.000		RBD
3600225001	36	Milk, sugar (lactose)-baby food/	0.100000	1.000	1.000		RBD
4000093000	40	Chicken, meat	0.190000	1.000	1.000		RBD
4000093001	40	Chicken, meat-babyfood	0.190000	1.000	1.000		RBD
4000094000	40	Chicken, liver	0.390000	1.000	1.000		RBD
4000095000	40	Chicken, meat byproducts	0.390000	1.000	1.000		RBD
4000095001	40	Chicken, meat byproducts-babyfoo	0.390000	1.000	1.000		RBD
4000096000	40	Chicken, fat	0.083000	1.000	1.000		RBD
4000096001	40	Chicken, fat-babyfood	0.083000	1.000	1.000		RBD
4000097000	40	Chicken, skin	0.390000	1.000	1.000		RBD
4000097001	40	Chicken, skin-babyfood	0.390000	1.000	1.000		RBD
5000382000	50	Turkey, meat	0.190000	1.000	1.000		RBD
5000382001	50	Turkey, meat-babyfood	0.190000	1.000	1.000		RBD
5000383000	50	Turkey, liver	0.390000	1.000	1.000		RBD
5000383001	50	Turkey, liver-babyfood	0.390000	1.000	1.000		RBD
5000384000	50	Turkey, meat byproducts	0.390000	1.000	1.000		RBD
5000384001	50	Turkey, meat byproducts-babyfood	0.390000	1.000	1.000		RBD
5000385000	50	Turkey, fat	0.083000	1.000	1.000		RBD
5000385001	50	Turkey, fat-babyfood	0.083000	1.000	1.000		RBD
5000386000	50	Turkey, skin	0.390000	1.000	1.000		RBD
5000386001	50	Turkey, skin-babyfood	0.390000	1.000	1.000		RBD
6000301000	60	Poultry, other, meat	0.190000	1.000	1.000		RBD
6000302000	60	Poultry, other, liver	0.390000	1.000	1.000		RBD
6000303000	60	Poultry, other, meat byproducts	0.390000	1.000	1.000		RBD
6000304000	60	Poultry, other, fat	0.083000	1.000	1.000		RBD
6000305000	60	Poultry, other, skin	0.390000	1.000	1.000		RBD
7000145000	70	Egg, whole	0.110000	1.000	1.000		RBD
7000145001	70	Egg, whole-babyfood	0.110000	1.000	1.000		RBD
7000146000	70	Egg, white	0.110000	1.000	1.000		RBD
7000146001	70	Egg, white (solids)-babyfood	0.110000	1.000	1.000		RBD
7000147000	70	Egg, yolk	0.110000	1.000	1.000		RBD
7000147001	70	Egg, yolk-babyfood	0.110000	1.000	1.000		RBD
8601000000	86A	Water, direct, all sources	3.700000	1.000	1.000	1	
8602000000	86B	Water, indirect, all sources	3.700000	1.000	1.000	1	
9500016000	O	Artichoke, globe	0.050000	1.000	1.000		
9500019000	O	Asparagus	7.000000	1.000	1.000		
9500020000	O	Avocado	4.000000	1.000	1.000		
9500074000	O	Canistel	0.400000	1.000	1.000		
9500177000	O	Grape, leaves	8.000000	1.000	1.000		res =
Full comment: res = tol (2) x 4							
9500178000	O	Grape, raisin	6.000000	1.000	1.000		
9500188000	O	Hop	20.000000	1.000	1.000		
9500215000	O	Mango	0.400000	1.000	1.000		
9500215001	O	Mango-babyfood	0.400000	1.000	1.000		
9500216000	O	Mango, dried	0.400000	1.000	1.000		
9500217000	O	Mango, juice	0.400000	1.000	1.000		
9500217001	O	Mango, juice-babyfood	0.400000	1.000	1.000		
9500245000	O	Papaya	0.400000	1.000	1.000		
9500245001	O	Papaya-babyfood	0.400000	1.000	1.000		
9500246000	O	Papaya, dried	0.400000	1.800	1.000		
9500247000	O	Papaya, juice	0.400000	1.500	1.000		

9500263000 O	Peanut	5.000000	1.000	1.000	res =
Full comment: res = tol (0.2) x 25					
9500264000 O	Peanut, butter	5.000000	1.890	1.000	res =
Full comment: res = tol (0.2) x 25					
9500265000 O	Peanut, oil	5.000000	1.000	1.000	res =
Full comment: res = tol (0.2) x 25					
9500279000 O	Pineapple	0.100000	1.000	1.000	
9500279001 O	Pineapple-babyfood	0.100000	1.000	1.000	
9500280000 O	Pineapple, dried	0.100000	5.000	1.000	
9500281000 O	Pineapple, juice	0.100000	1.000	1.000	
9500281001 O	Pineapple, juice-babyfood	0.100000	1.000	1.000	
9500333000 O	Sapote, Mamey	0.400000	1.000	1.000	
9500358000 O	Starfruit	0.200000	1.000	1.000	
9500361000 O	Sugar apple	0.200000	1.000	1.000	

Attachment 3. Acute Food and Water Results File

```
US EPA                                                        Ver. 3.18, 03-08-d
DEEM-FCID ACUTE Analysis for METALAXYL                    NHANES 2003-2008 2-Day
Residue file: MEFENOXAM METALAXYL ACUTE FOOD AND WATER 102215.R08
    Adjustment factor #2 used.
Analysis Date: 10-22-2015/15:21:25    Residue file dated: 10-22-2015/15:12:12
NOEL (Acute) =  50.000000 mg/kg body-wt/day
RAC/FF intake summed over 24 hours
MC iterations = 1000; MC list in residue file; MC seed = 10; RNG = MS VB
Run Comment: ""
================================================================================

Summary calculations--per capita:

---   95th Percentile----   ---   99th Percentile----     ---99.9th Percentile----
 Exposure  % aRfD     MOE    Exposure  % aRfD     MOE    Exposure  % aRfD     MOE
---------- ------- -------- ---------- ------- -------- ---------- ------- --------
Total US Population:
  0.194017   38.80     257    0.305065   61.01     163    0.517331  103.47      96
All Infants:
  0.474356   94.87     105    0.692703  138.54      72    0.990719  198.14      50
Children 1-2:
  0.320884   64.18     155    0.488095   97.62     102    0.870869  174.17      57
Children 3-5:
  0.285663   57.13     175    0.404170   80.83     123    0.571760  114.35      87
Children 6-12:
  0.198925   39.79     251    0.308337   61.67     162    0.473944   94.79     105
Youth 13-19:
  0.155781   31.16     320    0.247327   49.47     202    0.379649   75.93     131
Adults 20-49:
  0.182309   36.46     274    0.269364   53.87     185    0.389721   77.94     128
Adults 50-99:
  0.165636   33.13     301    0.243151   48.63     205    0.344643   68.93     145
Female 13-49:
  0.184804   36.96     270    0.271134   54.23     184    0.388677   77.74     128
```

Attachment 4: Acute Food Only Residue Input File

```
Filename: C:\Documents and Settings\NDODD\My Documents\DEEM Version 3.16\Metalaxyl\MEFENOXAM
METALAXYL FOOD ONLY 102215.R08
Chemical: Metalaxyl
RfD(Chronic): 0 mg/kg bw/day  NOEL(Chronic): 0 mg/kg bw/day
RfD(Acute): .5 mg/kg bw/day  NOEL(Acute):  50 mg/kg bw/day
Date created/last modified: 10-22-2015/13:58:38       Program ver. 3.16, 03-08-d
-------------------------------------------------------------------------------
RDL indices and parameters for Monte Carlo Analysis:
Index Dist Parameter #1        Param #2  Param #3  Comment
  #   Code
----- ---- ------------        --------  --------  -------
  1    6   mefenoxam NC cotton.RDF


Note: No residue distributions have been assigned to Commodities/FoodForms below

   EPA     Crop                                  Def Res     Adj.Factors   Comment
   Code     Grp  Commodity Name                   (ppm)       #1    #2
---------- ---- -------------------------------  ----------  ------ ------  -------
0101050000 1AB  Beet, garden, roots               0.500000   1.000  1.000
0101050001 1AB  Beet, garden, roots-babyfood      0.500000   1.000  1.000
0101052000 1A   Beet, sugar                       0.500000   1.000  1.000
0101052001 1A   Beet, sugar-babyfood              0.500000   1.000  1.000
0101053000 1A   Beet, sugar, molasses             1.000000   1.000  1.000
0101053001 1A   Beet, sugar, molasses-babyfood    1.000000   1.000  1.000
0101067000 1AB  Burdock                           0.500000   1.000  1.000
0101078000 1AB  Carrot                           0.500000   1.000  1.000
0101078001 1AB  Carrot-babyfood                   0.500000   1.000  1.000
0101079000 1AB  Carrot, juice                     0.500000   1.000  1.000
0101084000 1AB  Celeriac                          0.500000   1.000  1.000
0101100000 1AB  Chicory, roots                    0.500000   1.000  1.000
0101168000 1AB  Ginseng, dried                    3.000000   1.000  1.000
0101190000 1AB  Horseradish                       0.500000   1.000  1.000
0101250000 1AB  Parsley, turnip rooted           0.500000   1.000  1.000
0101251000 1AB  Parsnip                          0.500000   1.000  1.000
0101251001 1AB  Parsnip-babyfood                 0.500000   1.000  1.000
0101314000 1AB  Radish, roots                    0.500000   1.000  1.000
0101316000 1AB  Radish, Oriental, roots          0.500000   1.000  1.000
0101327000 1AB  Rutabaga                         0.500000   1.000  1.000
0101331000 1AB  Salsify, roots                   0.500000   1.000  1.000
0101388000 1AB  Turnip, roots                    0.500000   1.000  1.000
0103015000 1CD  Arrowroot, flour                  0.500000   1.000  1.000
0103015001 1CD  Arrowroot, flour-babyfood        0.500000   1.000  1.000
0103017000 1CD  Artichoke, Jerusalem             0.500000   1.000  1.000
0103082000 1CD  Cassava                           0.500000   1.000  1.000
0103082001 1CD  Cassava-babyfood                  0.500000   1.000  1.000
0103139000 1CD  Dasheen, corm                     0.500000   1.000  1.000
0103166000 1CD  Ginger                            0.500000   1.000  1.000
0103166001 1CD  Ginger-babyfood                   0.500000   1.000  1.000
0103167000 1CD  Ginger, dried                     0.500000   1.000  1.000
0103296000 1C   Potato, chips                     4.000000   1.000  1.000
0103297000 1C   Potato, dry (granules/ flakes)    4.000000   1.000  1.000
0103297001 1C   Potato, dry (granules/ flakes)-b  4.000000   1.000  1.000
0103298000 1C   Potato, flour                     4.000000   1.000  1.000
0103298001 1C   Potato, flour-babyfood            4.000000   1.000  1.000
0103299000 1C   Potato, tuber, w/peel             0.500000   1.000  1.000
0103299001 1C   Potato, tuber, w/peel-babyfood    0.500000   1.000  1.000
0103300000 1C   Potato, tuber, w/o peel           0.500000   1.000  1.000
0103300001 1C   Potato, tuber, w/o peel-babyfood  0.500000   1.000  1.000
0103366000 1CD  Sweet potato                      0.500000   1.000  1.000
0103366001 1CD  Sweet potato-babyfood             0.500000   1.000  1.000
0103371000 1CD  Tanier, corm                      0.500000   1.000  1.000
0103387000 1CD  Turmeric                          0.500000   1.000  1.000
0103406000 1CD  Yam, true                         0.500000   1.000  1.000
0103407000 1CD  Yam bean                         0.500000   1.000  1.000
0200051000 2    Beet, garden, tops               60.000000   1.000  1.000  res =
            Full comment: res = tol (15) x 4
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0200101000 2    Chicory, tops                      60.000000   1.000  1.000  res =
            Full comment: res = tol (15) x 4
0200140000 2    Dasheen, leaves                    60.000000   1.000  1.000  res =
            Full comment: res = tol (15) x 4
0200315000 2    Radish, tops                       60.000000   1.000  1.000  res =
            Full comment: res = tol (15) x 4
0200317000 2    Radish, Oriental, tops             60.000000   1.000  1.000  res =
            Full comment: res = tol (15) x 4
0200332000 2    Salsify, tops                      60.000000   1.000  1.000  res =
            Full comment: res = tol (15) x 4
0301165000 3A   Garlic, bulb                        3.000000   1.000  1.000
0301165001 3A   Garlic, bulb-babyfood              3.000000   1.000  1.000
0301237000 3A   Onion, bulb                        3.000000   1.000  1.000
0301237001 3A   Onion, bulb-babyfood               3.000000   1.000  1.000
0301238000 3A   Onion, bulb, dried                 3.000000   9.000  1.000
0301238001 3A   Onion, bulb, dried-babyfood        3.000000   9.000  1.000
0302103000 3B   Chive, fresh leaves
0302198000 3B   Leek                              10.000000   1.000  1.000
0302239000 3B   Onion, green                      10.000000   1.000  1.000
0302338500 3B   Shallot, fresh leaves              3.000000   1.000  1.000
0401005000 4A   Amaranth, leafy                   20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0401018000 4A   Arugula                           20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0401104000 4A   Chrysanthemum, garland            20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0401133000 4A   Cress, garden                     20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0401134000 4A   Cress, upland                     20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0401138000 4A   Dandelion, leaves                 20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0401150000 4A   Endive                            20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0401204000 4A   Lettuce, head                     20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0401205000 4A   Lettuce, leaf                     20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0401248000 4A   Parsley, leaves                   20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0401313000 4A   Radicchio                         20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0401355000 4A   Spinach                           40.000000   1.000  1.000  res =
            Full comment: res = tol (10) x 4
0401355001 4A   Spinach-babyfood                  40.000000   1.000  1.000  res =
            Full comment: res = tol (10) x 4
0402076000 4B   Cardoon                           20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0402085000 4B   Celery                            20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0402085001 4B   Celery-babyfood                   20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0402086000 4B   Celery, juice                     20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0402087000 4B   Celtuce                           20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0402152000 4B   Fennel, Florence                  20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0402322000 4B   Rhubarb                           20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0402367000 4B   Swiss chard                       20.000000   1.000  1.000  res =
            Full comment: res = tol (5) x 4
0501061000 5A   Broccoli                           2.000000   1.000  1.000
0501061001 5A   Broccoli-babyfood                  2.000000   1.000  1.000
0501062000 5A   Broccoli, Chinese                  2.000000   1.000  1.000
0501064000 5A   Brussels sprouts                   2.000000   1.000  1.000
0501069000 5A   Cabbage                            4.000000   1.000  1.000  res =
            Full comment: res = tol (1) x 4
0501071000 5A   Cabbage, Chinese, napa             4.000000   1.000  1.000  res =
            Full comment: res = tol (1) x 4
```

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0501072000 5A   Cabbage, Chinese, mustard          4.000000   1.000  1.000  res =
           Full comment: res = tol (1) x 4
0501083000 5A   Cauliflower                        1.000000   1.000  1.000
0501196000 5A   Kohlrabi                           0.400000   1.000  1.000  res =
           Full comment: res = tol (0.1) x 4
0502063000 5B   Broccoli raab                      2.000000   1.000  1.000
0502070000 5B   Cabbage, Chinese, bok choy         4.000000   1.000  1.000  res =
           Full comment: res = tol (1) x 4
0502117000 5B   Collards                           0.400000   1.000  1.000  res =
           Full comment: res = tol (0.1) x 4
0502194000 5B   Kale                               0.400000   1.000  1.000  res =
           Full comment: res = tol (0.1) x 4
0502229000 5B   Mustard greens                    20.000000   1.000  1.000  res =
           Full comment: res = tol (5.0) x 4
0502318000 5B   Rape greens                        0.400000   1.000  1.000  res =
           Full comment: res = tol (0.1) x 4
0502389000 5B   Turnip, greens                    60.000000   1.000  1.000  res =
           Full comment: res = tol (15) x 4
0600347000 6    Soybean, seed                      1.000000   1.000  1.000
0600349000 6    Soybean, soy milk                  1.000000   1.000  1.000
0600349001 6    Soybean, soy milk-babyfood or in   1.000000   1.000  1.000
0600350000 6    Soybean, oil                       1.000000   1.000  1.000
0600350001 6    Soybean, oil-babyfood              1.000000   1.000  1.000
0601043000 6A   Bean, snap, succulent              0.360000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 1.8  DP371307
0601043001 6A   Bean, snap, succulent-babyfood     0.360000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 1.8  DP371307
0601257000 6A   Pea, edible podded, succulent      0.200000   1.000  1.000
0602031000 6B   Bean, broad, succulent             0.200000   1.000  1.000
0602033000 6B   Bean, cowpea, succulent            0.200000   1.000  1.000
0602037000 6B   Bean, lima, succulent              0.200000   1.000  1.000
0602255000 6B   Pea, succulent                     0.200000   1.000  1.000
0602255001 6B   Pea, succulent-babyfood            0.200000   1.000  1.000
0602259000 6B   Pea, pigeon, succulent             0.200000   1.000  1.000
0603030000 6C   Bean, black, seed                  5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603032000 6C   Bean, broad, seed                  5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603034000 6C   Bean, cowpea, seed                 5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603035000 6C   Bean,  great northern, seed        5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603036000 6C   Bean, kidney, seed                 5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603038000 6C   Bean, lima, seed                   5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603039000 6C   Bean, mung, seed                   5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603040000 6C   Bean, navy, seed                   5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603041000 6C   Bean, pink, seed                   5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603042000 6C   Bean, pinto, seed                  5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603098000 6C   Chickpea, seed                     5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603098001 6C   Chickpea, seed-babyfood            5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603099000 6C   Chickpea, flour                    5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603182000 6C   Guar, seed                         5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603182001 6C   Guar, seed-babyfood                5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603203000 6C   Lentil, seed                       5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603256000 6C   Pea, dry                           5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
0603256001 6C   Pea, dry-babyfood                  5.000000   1.000  1.000  res =
           Full comment: res = tol (0.2) x 25
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0603258000	6C	Pea, pigeon, seed	5.000000	1.000	1.000	res =
		Full comment: res = tol (0.2) x 25				
0603348000	6C	Soybean, flour	1.000000	1.000	1.000	
0603348001	6C	Soybean, flour-babyfood	1.000000	1.000	1.000	
0801374000	8A	Tomatillo	1.000000	1.000	1.000	
0801375000	8A	Tomato	1.000000	1.000	1.000	
0801375001	8A	Tomato-babyfood	1.000000	1.000	1.000	
0801376000	8A	Tomato, paste	3.000000	1.000	1.000	
0801376001	8A	Tomato, paste-babyfood	3.000000	1.000	1.000	
0801377000	8A	Tomato, puree	3.000000	1.000	1.000	
0801377001	8A	Tomato, puree-babyfood	3.000000	1.000	1.000	
0801378000	8A	Tomato, dried	1.000000	14.300	1.000	
0801378001	8A	Tomato, dried-babyfood	1.000000	14.300	1.000	
0801379000	8A	Tomato, juice	1.000000	1.500	1.000	
0802148000	8BC	Eggplant	1.000000	1.000	1.000	
0802234000	8BC	Okra	1.000000	1.000	1.000	
0802270000	8B	Pepper, bell	1.000000	1.000	1.000	
0802270001	8B	Pepper, bell-babyfood	1.000000	1.000	1.000	
0802271000	8B	Pepper, bell, dried	1.000000	1.000	1.000	
0802271001	8B	Pepper, bell, dried-babyfood	1.000000	1.000	1.000	
0802272000	8BC	Pepper, nonbell	1.000000	1.000	1.000	
0802272001	8BC	Pepper, nonbell-babyfood	1.000000	1.000	1.000	
0802273000	8BC	Pepper, nonbell, dried	1.000000	1.000	1.000	
0901075000	9A	Cantaloupe	1.000000	1.000	1.000	
0901187000	9A	Honeydew melon	1.000000	1.000	1.000	
0901399000	9A	Watermelon	1.000000	1.000	1.000	
0901400000	9A	Watermelon, juice	1.000000	1.000	1.000	
0902021000	9B	Balsam pear	1.000000	1.000	1.000	
0902088000	9B	Chayote, fruit	1.000000	1.000	1.000	
0902102000	9B	Chinese waxgourd	1.000000	1.000	1.000	
0902135000	9B	Cucumber	1.000000	1.000	1.000	
0902308000	9B	Pumpkin	1.000000	1.000	1.000	
0902309000	9B	Pumpkin, seed	1.000000	1.000	1.000	
0902356000	9B	Squash, summer	1.000000	1.000	1.000	
0902356001	9B	Squash, summer-babyfood	1.000000	1.000	1.000	
0902357000	9B	Squash, winter	1.000000	1.000	1.000	
0902357001	9B	Squash, winter-babyfood	1.000000	1.000	1.000	
1001106000	10A	Citron	1.000000	1.000	1.000	
1001107000	10A	Citrus hybrids	1.000000	1.000	1.000	
1001108000	10A	Citrus, oil	7.000000	1.000	1.000	
1001240000	10A	Orange	1.000000	1.000	1.000	
1001241000	10A	Orange, juice	1.000000	1.000	1.000	
1001241001	10A	Orange, juice-babyfood	1.000000	1.000	1.000	
1001242000	10A	Orange, peel	1.000000	1.000	1.000	
1001369000	10A	Tangerine	1.000000	1.000	1.000	
1001370000	10A	Tangerine, juice	1.000000	1.000	1.000	
1002197000	10B	Kumquat	1.000000	1.000	1.000	
1002199000	10B	Lemon	1.000000	1.000	1.000	
1002200000	10B	Lemon, juice	1.000000	1.000	1.000	
1002200001	10B	Lemon, juice-babyfood	1.000000	1.000	1.000	
1002201000	10B	Lemon, peel	1.000000	1.000	1.000	
1002206000	10B	Lime	1.000000	1.000	1.000	
1002207000	10B	Lime, juice	1.000000	1.000	1.000	
1002207001	10B	Lime, juice-babyfood	1.000000	1.000	1.000	
1003180000	10C	Grapefruit	1.000000	1.000	1.000	
1003181000	10C	Grapefruit, juice	1.000000	1.000	1.000	
1003307000	10C	Pummelo	1.000000	1.000	1.000	
1100007000	11	Apple, fruit with peel	0.200000	1.000	1.000	
1100008000	11	Apple, peeled fruit	0.200000	1.000	1.000	
1100008001	11	Apple, peeled fruit-babyfood	0.200000	1.000	1.000	
1100009000	11	Apple, dried	0.200000	8.000	1.000	
1100009001	11	Apple, dried-babyfood	0.200000	8.000	1.000	
1100010000	11	Apple, juice	0.200000	1.000	1.000	
1100010001	11	Apple, juice-babyfood	0.200000	1.000	1.000	
1100011000	11	Apple, sauce	0.200000	1.000	1.000	
1100011001	11	Apple, sauce-babyfood	0.200000	1.000	1.000	
1201090000	12A	Cherry	1.000000	1.000	1.000	
1201090001	12A	Cherry-babyfood	1.000000	1.000	1.000	
1201091000	12A	Cherry, juice	1.000000	1.500	1.000	
1201091001	12A	Cherry, juice-babyfood	1.000000	1.500	1.000	

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1202012000 12B  Apricot                              1.000000   1.000  1.000
1202012001 12B  Apricot-babyfood                     1.000000   1.000  1.000
1202013000 12B  Apricot, dried                       4.000000   1.000  1.000
1202014000 12B  Apricot, juice                       1.000000   1.000  1.000
1202014001 12B  Apricot, juice-babyfood             1.000000   1.000  1.000
1202230000 12B  Nectarine                            1.000000   1.000  1.000
1202260000 12B  Peach                                1.000000   1.000  1.000
1202260001 12B  Peach-babyfood                       1.000000   1.000  1.000
1202261000 12B  Peach, dried                         1.000000   7.000  1.000
1202261001 12B  Peach, dried-babyfood                1.000000   7.000  1.000
1202262000 12B  Peach, juice                        1.000000   1.000  1.000
1202262001 12B  Peach, juice-babyfood               1.000000   1.000  1.000
1203285000 12C  Plum                                 1.000000   1.000  1.000
1203285001 12C  Plum-babyfood                        1.000000   1.000  1.000
1203286000 12C  Plum, prune, fresh                   1.000000   1.000  1.000
1203286001 12C  Plum, prune, fresh-babyfood          1.000000   1.000  1.000
1203287000 12C  Plum, prune, dried                   4.000000   1.000  1.000
1203287001 12C  Plum, prune, dried-babyfood          4.000000   1.000  1.000
1203288000 12C  Plum, prune, juice                   1.000000   1.400  1.000
1203288001 12C  Plum, prune, juice-babyfood          1.000000   1.400  1.000
1301055000 13A  Blackberry                           0.910000   1.000  1.000  res =
            Full comment: res = tol (0.7) x 1.3
1301056000 13A  Blackberry, juice                    0.910000   1.000  1.000  res =
            Full comment: res = tol (0.7) x 1.3
1301056001 13A  Blackberry, juice-babyfood           0.910000   1.000  1.000  res =
            Full comment: res = tol (0.7) x 1.3
1301058000 13A  Boysenberry                          0.910000   1.000  1.000  res =
            Full comment: res = tol (0.7) x 1.3
1301208000 13A  Loganberry                           0.910000   1.000  1.000  res =
            Full comment: res = tol (0.7) x 1.3
1301320000 13A  Raspberry                            0.910000   1.000  1.000  res =
            Full comment: res = tol (0.7) x 1.3
1301320001 13A  Raspberry-babyfood                   0.910000   1.000  1.000  res =
            Full comment: res = tol (0.7) x 1.3
1301321000 13A  Raspberry, juice                     0.910000   1.000  1.000  res =
            Full comment: res = tol (0.7) x 1.3
1301321001 13A  Raspberry, juice-babyfood            0.910000   1.000  1.000  res =
            Full comment: res = tol (0.7) x 1.3
1302057000 13B  Blueberry                            2.000000   1.000  1.000
1302057001 13B  Blueberry-babyfood                   2.000000   1.000  1.000
1302136000 13B  Currant                              2.000000   1.000  1.000
1302137000 13B  Currant, dried                       2.000000   1.000  1.000
1302149000 13B  Elderberry                           2.000000   1.000  1.000
1302174000 13B  Gooseberry                           2.000000   1.000  1.000
1302191000 13B  Huckleberry                          2.000000   1.000  1.000
1304175000 13D  Grape                                2.000000   1.000  1.000
1304176000 13D  Grape, juice                        2.000000   1.000  1.000
1304176001 13D  Grape, juice-babyfood               2.000000   1.000  1.000
1304195000 13D  Kiwifruit, fuzzy                     0.100000   1.000  1.000
1307130000 13G  Cranberry                            4.000000   1.000  1.000
1307130001 13G  Cranberry-babyfood                   4.000000   1.000  1.000
1307131000 13G  Cranberry, dried                     4.000000   1.000  1.000
1307132000 13G  Cranberry, juice                     4.000000   1.100  1.000
1307132001 13G  Cranberry, juice-babyfood           4.000000   1.100  1.000
1307359000 13G  Strawberry                          10.000000   1.000  1.000
1307359001 13G  Strawberry-babyfood                 10.000000   1.000  1.000
1307360000 13G  Strawberry, juice                   10.000000   1.000  1.000
1307360001 13G  Strawberry, juice-babyfood         10.000000   1.000  1.000
1400003000 14   Almond                              12.500000   1.000  1.000  res =
            Full comment: res = tol (0.5) x 25
1400003001 14   Almond-babyfood                     12.500000   1.000  1.000  res =
            Full comment: res = tol (0.5) x 25
1400004000 14   Almond, oil                         12.500000   1.000  1.000  res =
            Full comment: res = tol (0.5) x 25
1400004001 14   Almond, oil-babyfood                12.500000   1.000  1.000  res =
            Full comment: res = tol (0.5) x 25
1400391000 14   Walnut                              12.500000   1.000  1.000
1500025000 15   Barley, pearled barley               5.000000   1.000  1.000  res =
            Full comment: res = grain tol (0.2) x 25
1500025001 15   Barley, pearled barley-babyfood     5.000000   1.000  1.000  res =
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            Full comment: res = grain tol (0.2) x 25
1500026000 15   Barley, flour                      5.000000   1.000  1.000  res =
            Full comment: res = grain tol (0.2) x 25
1500026001 15   Barley, flour-babyfood             5.000000   1.000  1.000  res =
            Full comment: res = grain tol (0.2) x 25
1500027000 15   Barley, bran                      25.000000   1.000  1.000  res =
            Full comment: res = tol (1.0) x 25
1500065000 15   Buckwheat                          2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500066000 15   Buckwheat, flour                   2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500120000 15   Corn, field, flour                 2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500120001 15   Corn, field, flour-babyfood        2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500121000 15   Corn, field, meal                  2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500121001 15   Corn, field, meal-babyfood         2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500122000 15   Corn, field, bran                  2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500123000 15   Corn, field, starch                2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500123001 15   Corn, field, starch-babyfood       2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500124000 15   Corn, field, syrup                 2.500000   1.500  1.000  res =
            Full comment: res = tol (0.1) x 25
1500124001 15   Corn, field, syrup-babyfood        2.500000   1.500  1.000  res =
            Full comment: res = tol (0.1) x 25
1500125000 15   Corn, field, oil                   2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500125001 15   Corn, field, oil-babyfood          2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500126000 15   Corn, pop                          2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500127000 15   Corn, sweet                        2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500127001 15   Corn, sweet-babyfood               2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500226000 15   Millet, grain                      2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500231000 15   Oat, bran                          5.000000   1.000  1.000  res =
            Full comment: res = grain tol (0.2) x 25
1500232000 15   Oat, flour                         5.000000   1.000  1.000  res =
            Full comment: res = grain tol (0.2) x 25
1500232001 15   Oat, flour-babyfood                5.000000   1.000  1.000  res =
            Full comment: res = grain tol (0.2) x 25
1500233000 15   Oat, groats/rolled oats            5.000000   1.000  1.000  res =
            Full comment: res = grain tol (0.2) x 25
1500233001 15   Oat, groats/rolled oats-babyfood   5.000000   1.000  1.000  res =
            Full comment: res = grain tol (0.2) x 25
1500323000 15   Rice, white                        2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500323001 15   Rice, white-babyfood               2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500324000 15   Rice, brown                        2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500324001 15   Rice, brown-babyfood               2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500325000 15   Rice, flour                        2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500325001 15   Rice, flour-babyfood               2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500326000 15   Rice, bran                         2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500326001 15   Rice, bran-babyfood                2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500328000 15   Rye, grain                         2.500000   1.000  1.000  res =
            Full comment: res = tol (0.1) x 25
1500329000 15   Rye, flour                         2.500000   1.000  1.000  res =
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		Full comment: res = tol (0.1) x 25				
1500344000	15	Sorghum, grain	2.500000	1.000	1.000	res =
		Full comment: res = tol (0.1) x 25				
1500345000	15	Sorghum, syrup	2.500000	1.000	1.000	res =
		Full comment: res = tol (0.1) x 25				
1500381000	15	Triticale, flour	2.500000	1.000	1.000	res =
		Full comment: res = tol (0.1) x 25				
1500381001	15	Triticale, flour-babyfood	2.500000	1.000	1.000	res =
		Full comment: res = tol (0.1) x 25				
1500401000	15	Wheat, grain	5.000000	1.000	1.000	res =
		Full comment: res = grain tol (0.2) x 25				
1500401001	15	Wheat, grain-babyfood	5.000000	1.000	1.000	res =
		Full comment: res = grain tol (0.2) x 25				
1500402000	15	Wheat, flour	5.000000	1.000	1.000	res =
		Full comment: res = grain tol (0.2) x 25				
1500402001	15	Wheat, flour-babyfood	5.000000	1.000	1.000	res =
		Full comment: res = grain tol (0.2) x 25				
1500403000	15	Wheat, germ	25.000000	1.000	1.000	res =
		Full comment: res = tol (1.0) x 25				
1500404000	15	Wheat, bran	25.000000	1.000	1.000	res =
		Full comment: res = tol (1.0) x 25				
1500405000	15	Wild rice	2.500000	1.000	1.000	res =
		Full comment: res = tol (0.1) x 25				
1901028000	19A	Basil, fresh leaves	32.000000	1.000	1.000	res =
		Full comment: res = tol (8.0) x 4				
1901028001	19A	Basil, fresh leaves-babyfood	32.000000	1.000	1.000	res =
		Full comment: res = tol (8.0) x 4				
1901029000	19A	Basil, dried leaves	220.000000	1.000	1.000	res =
		Full comment: res = tol (55) x 4				
1901029001	19A	Basil, dried leaves-babyfood	220.000000	1.000	1.000	res =
		Full comment: res = tol (55) x 4				
1901118000	19A	Cilantro, leaves				
1901118001	19A	Cilantro, leaves-babyfood	220.000000	1.000	1.000	res =
		Full comment: res = tol (55) x 4				
1901184000	19A	Herbs, other	220.000000	1.000	1.000	res =
		Full comment: res = tol (55) x 4				
1901184001	19A	Herbs, other-babyfood	220.000000	1.000	1.000	res =
		Full comment: res = tol (55) x 4				
1901202000	19A	Lemongrass	220.000000	1.000	1.000	res =
		Full comment: res = tol (55) x 4				
1901220001	19A	Marjoram-babyfood	220.000000	1.000	1.000	res =
		Full comment: res = tol (55) x 4				
1901249001	19A	Parsley, dried leaves-babyfood	220.000000	1.000	1.000	res =
		Full comment: res = tol (55) x 4				
2001163000	20A	Flax seed, oil	0.100000	1.000	1.000	
2001319000	20A	Rapeseed, oil	0.100000	1.000	1.000	
2001319001	20A	Rapeseed, oil-babyfood	0.100000	1.000	1.000	
2001336000	20A	Sesame, seed	0.100000	1.000	1.000	
2001336001	20A	Sesame, seed-babyfood	0.100000	1.000	1.000	
2001337000	20A	Sesame, oil	0.100000	1.000	1.000	
2001337001	20A	Sesame, oil-babyfood	0.100000	1.000	1.000	
2002364000	20B	Sunflower, seed	0.100000	1.000	1.000	
2002365000	20B	Sunflower, oil	0.100000	1.000	1.000	
2002365001	20B	Sunflower, oil-babyfood	0.100000	1.000	1.000	
2003128000	20C	Cottonseed, oil	2.500000	1.000	1.000	res =
		Full comment: res = tol (0.1) x 25				
2003128001	20C	Cottonseed, oil-babyfood	2.500000	1.000	1.000	res =
		Full comment: res = tol (0.1) x 25				
3100044000	31	Beef, meat	0.160000	1.000	1.000	Reason
		Full comment: Reasonably Balanced Diet (RBD)				
3100044001	31	Beef, meat-babyfood	0.160000	1.000	1.000	RBD
3100045000	31	Beef, meat, dried	0.160000	1.920	1.000	RBD
3100046000	31	Beef, meat byproducts	2.670000	1.000	1.000	RBD
3100046001	31	Beef, meat byproducts-babyfood	2.670000	1.000	1.000	RBD
3100047000	31	Beef, fat	0.470000	1.000	1.000	RBD
3100047001	31	Beef, fat-babyfood	0.470000	1.000	1.000	RBD
3100048000	31	Beef, kidney	2.670000	1.000	1.000	RBD
3100049000	31	Beef, liver	2.230000	1.000	1.000	RBD
3100049001	31	Beef, liver-babyfood	2.230000	1.000	1.000	RBD
3200169000	32	Goat, meat	0.160000	1.000	1.000	RBD

3200170000	32	Goat, meat byproducts	2.670000	1.000	1.000	RBD
3200171000	32	Goat, fat	0.470000	1.000	1.000	RBD
3200172000	32	Goat, kidney	2.670000	1.000	1.000	RBD
3200173000	32	Goat, liver	2.230000	1.000	1.000	RBD
3300189000	33	Horse, meat	0.160000	1.000	1.000	
3400290000	34	Pork, meat	0.160000	1.000	1.000	RBD
3400290001	34	Pork, meat-babyfood	0.160000	1.000	1.000	RBD
3400291000	34	Pork, skin	2.670000	1.000	1.000	RBD
3400292000	34	Pork, meat byproducts	2.670000	1.000	1.000	RBD
3400292001	34	Pork, meat byproducts-babyfood	2.670000	1.000	1.000	RBD
3400293000	34	Pork, fat	0.470000	1.000	1.000	RBD
3400293001	34	Pork, fat-babyfood	0.470000	1.000	1.000	RBD
3400294000	34	Pork, kidney	2.670000	1.000	1.000	RBD
3400295000	34	Pork, liver	2.230000	1.000	1.000	RBD
3500339000	35	Sheep, meat	0.160000	1.000	1.000	RBD
3500339001	35	Sheep, meat-babyfood	0.160000	1.000	1.000	RBD
3500340000	35	Sheep, meat byproducts	2.670000	1.000	1.000	RBD
3500341000	35	Sheep, fat	0.470000	1.000	1.000	RBD
3500341001	35	Sheep, fat-babyfood	0.470000	1.000	1.000	RBD
3500342000	35	Sheep, kidney	2.670000	1.000	1.000	RBD
3500343000	35	Sheep, liver	2.230000	1.000	1.000	RBD
3600222000	36	Milk, fat	0.100000	1.000	1.000	RBD
3600222001	36	Milk, fat-baby food/infant formu	0.100000	1.000	1.000	RBD
3600223000	36	Milk, nonfat solids	0.100000	1.000	1.000	RBD
3600223001	36	Milk, nonfat solids-baby food/in	0.100000	1.000	1.000	RBD
3600224000	36	Milk, water	0.100000	1.000	1.000	RBD
3600224001	36	Milk, water-babyfood/infant form	0.100000	1.000	1.000	RBD
3600225001	36	Milk, sugar (lactose)-baby food/	0.100000	1.000	1.000	RBD
4000093000	40	Chicken, meat	0.190000	1.000	1.000	RBD
4000093001	40	Chicken, meat-babyfood	0.190000	1.000	1.000	RBD
4000094000	40	Chicken, liver	0.390000	1.000	1.000	RBD
4000095000	40	Chicken, meat byproducts	0.390000	1.000	1.000	RBD
4000095001	40	Chicken, meat byproducts-babyfoo	0.390000	1.000	1.000	RBD
4000096000	40	Chicken, fat	0.083000	1.000	1.000	RBD
4000096001	40	Chicken, fat-babyfood	0.083000	1.000	1.000	RBD
4000097000	40	Chicken, skin	0.390000	1.000	1.000	RBD
4000097001	40	Chicken, skin-babyfood	0.390000	1.000	1.000	RBD
5000382000	50	Turkey, meat	0.190000	1.000	1.000	RBD
5000382001	50	Turkey, meat-babyfood	0.190000	1.000	1.000	RBD
5000383000	50	Turkey, liver	0.390000	1.000	1.000	RBD
5000383001	50	Turkey, liver-babyfood	0.390000	1.000	1.000	RBD
5000384000	50	Turkey, meat byproducts	0.390000	1.000	1.000	RBD
5000384001	50	Turkey, meat byproducts-babyfood	0.390000	1.000	1.000	RBD
5000385000	50	Turkey, fat	0.083000	1.000	1.000	RBD
5000385001	50	Turkey, fat-babyfood	0.083000	1.000	1.000	RBD
5000386000	50	Turkey, skin	0.390000	1.000	1.000	RBD
5000386001	50	Turkey, skin-babyfood	0.390000	1.000	1.000	RBD
6000301000	60	Poultry, other, meat	0.190000	1.000	1.000	RBD
6000302000	60	Poultry, other, liver	0.390000	1.000	1.000	RBD
6000303000	60	Poultry, other, meat byproducts	0.390000	1.000	1.000	RBD
6000304000	60	Poultry, other, fat	0.083000	1.000	1.000	RBD
6000305000	60	Poultry, other, skin	0.390000	1.000	1.000	RBD
7000145000	70	Egg, whole	0.110000	1.000	1.000	RBD
7000145001	70	Egg, whole-babyfood	0.110000	1.000	1.000	RBD
7000146000	70	Egg, white	0.110000	1.000	1.000	RBD
7000146001	70	Egg, white (solids)-babyfood	0.110000	1.000	1.000	RBD
7000147000	70	Egg, yolk	0.110000	1.000	1.000	RBD
7000147001	70	Egg, yolk-babyfood	0.110000	1.000	1.000	RBD
9500016000	O	Artichoke, globe	0.050000	1.000	1.000	
9500019000	O	Asparagus	7.000000	1.000	1.000	
9500020000	O	Avocado	4.000000	1.000	1.000	
9500074000	O	Canistel	0.400000	1.000	1.000	
9500177000	O	Grape, leaves	8.000000	1.000	1.000	res =
		Full comment: res = tol (2) x 4				
9500178000	O	Grape, raisin	6.000000	1.000	1.000	
9500188000	O	Hop	20.000000	1.000	1.000	
9500215000	O	Mango	0.400000	1.000	1.000	
9500215001	O	Mango-babyfood	0.400000	1.000	1.000	
9500216000	O	Mango, dried	0.400000	1.000	1.000	
9500217000	O	Mango, juice	0.400000	1.000	1.000	

9500217001	O	Mango, juice-babyfood	0.400000	1.000	1.000	
9500245000	O	Papaya	0.400000	1.000	1.000	
9500245001	O	Papaya-babyfood	0.400000	1.000	1.000	
9500246000	O	Papaya, dried	0.400000	1.800	1.000	
9500247000	O	Papaya, juice	0.400000	1.500	1.000	
9500263000	O	Peanut	5.000000	1.000	1.000	res =
		Full comment: res = tol (0.2) x 25				
9500264000	O	Peanut, butter	5.000000	1.890	1.000	res =
		Full comment: res = tol (0.2) x 25				
9500265000	O	Peanut, oil	5.000000	1.000	1.000	res =
		Full comment: res = tol (0.2) x 25				
9500279000	O	Pineapple	0.100000	1.000	1.000	
9500279001	O	Pineapple-babyfood	0.100000	1.000	1.000	
9500280000	O	Pineapple, dried	0.100000	5.000	1.000	
9500281000	O	Pineapple, juice	0.100000	1.000	1.000	
9500281001	O	Pineapple, juice-babyfood	0.100000	1.000	1.000	
9500333000	O	Sapote, Mamey	0.400000	1.000	1.000	
9500358000	O	Starfruit	0.200000	1.000	1.000	
9500361000	O	Sugar apple	0.200000	1.000	1.000	

Attachment 5: Acute Food Only Results File

```
US EPA                                                        Ver. 3.18, 03-08-d
DEEM-FCID ACUTE Analysis for METALAXYL                    NHANES 2003-2008 2-Day
Residue file: MEFENOXAM METALAXYL FOOD ONLY 102215.R08
    Adjustment factor #2 used.
Analysis Date: 10-22-2015/14:03:59    Residue file dated: 10-22-2015/13:58:38
NOEL (Acute) =  50.000000 mg/kg body-wt/day
RAC/FF intake summed over 24 hours
Run Comment: ""
================================================================================

Summary calculations--per capita:

---   95th Percentile----   ---   99th Percentile----     ---99.9th Percentile----
 Exposure  % aRfD     MOE    Exposure  % aRfD     MOE    Exposure  % aRfD     MOE
---------- ------- -------- ---------- ------- -------- ---------- ------- --------
Total US Population:
  0.091035   18.21     549    0.146546   29.31     341    0.245312   49.06     203
All Infants:
  0.110521   22.10     452    0.185274   37.05     269    0.444365   88.87     112
Children 1-2:
  0.172357   34.47     290    0.240725   48.14     207    0.354452   70.89     141
Children 3-5:
  0.165101   33.02     302    0.243160   48.63     205    0.394322   78.86     126
Children 6-12:
  0.106639   21.33     468    0.149232   29.85     335    0.215971   43.19     231
Youth 13-19:
  0.072030   14.41     694    0.108983   21.80     458    0.175479   35.10     284
Adults 20-49:
  0.072713   14.54     687    0.120407   24.08     415    0.194541   38.91     257
Adults 50-99:
  0.068659   13.73     728    0.117054   23.41     427    0.202292   40.46     247
Female 13-49:
  0.073503   14.70     680    0.123181   24.64     405    0.196645   39.33     254
```

Attachment 7: Acute Water Only Residue Input File

```
Filename: C:\Documents and Settings\NDODD\My Documents\DEEM Version 3.16\Metalaxyl\MEFENOXAM
METALAXYL WATER ONLY 102215.R08
Chemical: Metalaxyl
RfD(Chronic): 0 mg/kg bw/day  NOEL(Chronic): 0 mg/kg bw/day
RfD(Acute): .5 mg/kg bw/day  NOEL(Acute):  50 mg/kg bw/day
Date created/last modified: 10-22-2015/14:33:02       Program ver. 3.16, 03-08-d
-------------------------------------------------------------------------------
RDL indices and parameters for Monte Carlo Analysis:
Index Dist Parameter #1        Param #2  Param #3  Comment
  #   Code
----- ---- ------------        --------  --------  -------
  1    6   mefenoxam NC cotton.RDF

   EPA     Crop Commodity Name                    Def Res     Adj.Factors  RDLComment
   Code     Grp                                    (ppm)       #1     #2   Pntr
---------- ---- --------------------------------  ----------  ------ ------ ---  -------
8601000000 86A  Water, direct, all sources         3.700000   1.000  1.000   1
8602000000 86B  Water, indirect, all sources       3.700000   1.000  1.000   1
```

Attachment 8: Acute Water Only Results File

```
US EPA                                                        Ver. 3.18, 03-08-d
DEEM-FCID ACUTE Analysis for METALAXYL                    NHANES 2003-2008 2-Day
Residue file: MEFENOXAM METALAXYL WATER ONLY 102215.R08
    Adjustment factor #2 used.
Analysis Date: 10-22-2015/14:36:33    Residue file dated: 10-22-2015/14:33:02
NOEL (Acute) =  50.000000 mg/kg body-wt/day
RAC/FF intake summed over 24 hours
MC iterations = 1000; MC list in residue file; MC seed = 10; RNG = MS VB
Run Comment: ""
================================================================================

Summary calculations--per capita:

---   95th Percentile----   ---   99th Percentile----     ---99.9th Percentile----
 Exposure  % aRfD     MOE    Exposure  % aRfD     MOE    Exposure  % aRfD     MOE
---------- ------- -------- ---------- ------- -------- ---------- ------- --------
Total US Population:
  0.135396   27.08     369    0.232239   46.45     215    0.445063   89.01     112
All Infants:
  0.436737   87.35     114    0.650518  130.10      76    0.942329  188.47      53
Children 1-2:
  0.208047   41.61     240    0.344761   68.95     145    0.696109  139.22      71
Children 3-5:
  0.171357   34.27     291    0.273131   54.63     183    0.456957   91.39     109
Children 6-12:
  0.124954   24.99     400    0.218062   43.61     229    0.373473   74.69     133
Youth 13-19:
  0.109394   21.88     457    0.194189   38.84     257    0.319806   63.96     156
Adults 20-49:
  0.135144   27.03     369    0.213084   42.62     234    0.329758   65.95     151
Adults 50-99:
  0.122604   24.52     407    0.191586   38.32     260    0.306804   61.36     162
Female 13-49:
  0.137451   27.49     363    0.215147   43.03     232    0.324754   64.95     153
```

Attachment 9: CEC Results

The highest contributing food items for exposure/risk are shown below for the general U.S. population and the three highest exposed subgroups: all infants, children 1-2, and children 3-5.

```
US EPA
DEEM-FCID Acute Critical Exposure Contribution Analysis (Ver. 3.18, 03-08-d)
NHANES 2003-2008 2-Day
Residue file = C:\Documents and Settings\NDODD\My Documents\DEEM Version 3.16\Metalaxyl\MEFENOXAM
METALAXYL ACUTE FOOD AND WATER 102215.R08
Acute report = C:\Documents and Settings\NDODD\My Documents\DEEM Version 3.16\Metalaxyl\Mefenoxam
Metalaxyl Acute Food and Water 102215.AC8
Date and time of analysis: 10-22-2015 15:16:50
Daily totals for food and foodform consumption used.
Adjustment factor #2 used.
Minimum exposure contribution = 1%
MC Iterations = 1000  Seed = 10  RNG = MS VB
CEC records generated for first 90 iterations.
Exposures divided by body weight

Subpopulations:
   1  Total US Population
   2  All Infants
   3  Children 1-2
   4  Children 3-5
   5  Children 6-12
   6  Youth 13-19
   7  Adults 20-49
   8  Adults 50-99
   9  Female 13-49

================================================================================
Total US Population
Low percentile for CEC records: 99     Exposure (mg/day) =    0.305065
High percentile for CEC records: 99.9  Exposure (mg/day) =    0.517333
Number of actual records in this interval: 68511


Critical foods with foodforms for this population (as derived from these records):
  N=number of appearances in all records (including duplicates)
  %=percent of total exposure for all records (including duplicates)

Food         FF       N     Percent   Food Name
----------   ---    -----   -------   -------------
8602000000   130    29099    31.72%   Water, indirect, all sources-Uncooked; Dried; Cook Meth N/S
8601000000   110    47607    28.38%   Water, direct, all sources-Uncooked; Fresh or N/S; Cook
Meth N/S
8602000000   230    11814     5.03%   Water, indirect, all sources-Cooked; Dried; Cook Meth N/S
8602000000   232    17626     3.59%   Water, indirect, all sources-Cooked; Dried; Boiled
8602000000   240     2630     2.85%   Water, indirect, all sources-Cooked; Canned; Cook Meth N/S
8602000000   110    12960     2.56%   Water, indirect, all sources-Uncooked; Fresh or N/S; Cook
Meth N/S
1500402000   211    32665     1.92%   Wheat, flour-Cooked; Fresh or N/S; Baked
0401204000   110     9592     1.47%   Lettuce, head-Uncooked; Fresh or N/S; Cook Meth N/S
8602000000   212    10815     1.16%   Water, indirect, all sources-Cooked; Fresh or N/S; Boiled
1307359000   110     4479     1.02%   Strawberry-Uncooked; Fresh or N/S; Cook Meth N/S

Critical foods (without foodforms) for this population (as derived from these records):
  N=number of appearances in all records (including duplicates)
  %=percent of total exposure for all records (including duplicates)

Food           N     Percent   Food Name
----------   -----   -------   -------------
8602000000   95554    47.51%    Water, indirect, all sources
8601000000   47607    28.38%    Water, direct, all sources
1500402000   63994     3.29%    Wheat, flour
```

```
0401355000    4090     1.83%    Spinach
0401204000   10678     1.53%    Lettuce, head
1500124000   30793     1.28%    Corn, field, syrup
1307359000    6358     1.18%    Strawberry
0502389000    1199     1.01%    Turnip, greens

================================================================================

All Infants
Low percentile for CEC records: 99     Exposure (mg/day) =    0.692703
High percentile for CEC records: 99.9  Exposure (mg/day) =    0.990720
Number of actual records in this interval: 1750


Critical foods with foodforms for this population (as derived from these records):
  N=number of appearances in all records (including duplicates)
  %=percent of total exposure for all records (including duplicates)

Food         FF       N     Percent   Food Name
----------   ---    -----   -------   -------------
8602000000   130     1405    67.03%   Water, indirect, all sources-Uncooked; Dried; Cook Meth N/S
8601000000   110      813    13.34%   Water, direct, all sources-Uncooked; Fresh or N/S; Cook
Meth N/S
8602000000   240      202     5.91%   Water, indirect, all sources-Cooked; Canned; Cook Meth N/S
8602000000   230       98     4.13%   Water, indirect, all sources-Cooked; Dried; Cook Meth N/S
8602000000   110      211     2.64%   Water, indirect, all sources-Uncooked; Fresh or N/S; Cook
Meth N/S
0401355000   222       31     1.77%   Spinach-Cooked; Frozen; Boiled

Critical foods (without foodforms) for this population (as derived from these records):
  N=number of appearances in all records (including duplicates)
  %=percent of total exposure for all records (including duplicates)

Food           N     Percent   Food Name
----------   -----   -------   -------------
8602000000    2001    79.89%    Water, indirect, all sources
8601000000     813    13.34%    Water, direct, all sources
0401355000      31     1.77%    Spinach
================================================================================

Children 1-2
Low percentile for CEC records: 99     Exposure (mg/day) =    0.488095
High percentile for CEC records: 99.9  Exposure (mg/day) =    0.870878
Number of actual records in this interval: 2316


Critical foods with foodforms for this population (as derived from these records):
  N=number of appearances in all records (including duplicates)
  %=percent of total exposure for all records (including duplicates)

Food         FF       N     Percent   Food Name
----------   ---    -----   -------   -------------
8601000000   110     2187    48.04%   Water, direct, all sources-Uncooked; Fresh or N/S; Cook
Meth N/S
8602000000   232     1012     7.35%   Water, indirect, all sources-Cooked; Dried; Boiled
8602000000   130      474     5.76%   Water, indirect, all sources-Uncooked; Dried; Cook Meth N/S
8602000000   110      588     3.62%   Water, indirect, all sources-Uncooked; Fresh or N/S; Cook
Meth N/S
8602000000   230      745     3.06%   Water, indirect, all sources-Cooked; Dried; Cook Meth N/S
1500402000   211     1711     2.89%   Wheat, flour-Cooked; Fresh or N/S; Baked
0401355000   222       90     2.54%   Spinach-Cooked; Frozen; Boiled
8602000000   212      617     1.66%   Water, indirect, all sources-Cooked; Fresh or N/S; Boiled
1304176000   110      285     1.57%   Grape, juice-Uncooked; Fresh or N/S; Cook Meth N/S
0401204000   110      359     1.50%   Lettuce, head-Uncooked; Fresh or N/S; Cook Meth N/S
0401355000   212       61     1.44%   Spinach-Cooked; Fresh or N/S; Boiled
1500233000   230      700     1.31%   Oat, groats/rolled oats-Cooked; Dried; Cook Meth N/S
1001241000   110      468     1.09%   Orange, juice-Uncooked; Fresh or N/S; Cook Meth N/S
```

Critical foods (without foodforms) for this population (as derived from these records):
N=number of appearances in all records (including duplicates)
%=percent of total exposure for all records (including duplicates)

Food	N	Percent	Food Name
8601000000	2187	48.04%	Water, direct, all sources
8602000000	4003	22.67%	Water, indirect, all sources
1500402000	3753	5.02%	Wheat, flour
0401355000	176	4.06%	Spinach
1304176000	482	2.11%	Grape, juice
1500124000	1509	1.79%	Corn, field, syrup
0401204000	492	1.71%	Lettuce, head
1500233000	781	1.52%	Oat, groats/rolled oats
1001241000	592	1.39%	Orange, juice

==========

Children 3-5
Low percentile for CEC records: 99 Exposure (mg/day) = 0.404170
High percentile for CEC records: 99.9 Exposure (mg/day) = 0.571762
Number of actual records in this interval: 2737

Critical foods with foodforms for this population (as derived from these records):
N=number of appearances in all records (including duplicates)
%=percent of total exposure for all records (including duplicates)

Food	FF	N	Percent	Food Name
8601000000	110	2569	48.93%	Water, direct, all sources-Uncooked; Fresh or N/S; Cook Meth N/S
0401355000	242	170	4.32%	Spinach-Cooked; Canned; Boiled
8602000000	232	786	4.09%	Water, indirect, all sources-Cooked; Dried; Boiled
1500402000	211	2534	3.91%	Wheat, flour-Cooked; Fresh or N/S; Baked
8602000000	130	375	3.89%	Water, indirect, all sources-Uncooked; Dried; Cook Meth N/S
0401204000	110	583	3.23%	Lettuce, head-Uncooked; Fresh or N/S; Cook Meth N/S
0502389000	222	89	2.37%	Turnip, greens-Cooked; Frozen; Boiled
0401355000	222	90	1.91%	Spinach-Cooked; Frozen; Boiled
8602000000	110	322	1.50%	Water, indirect, all sources-Uncooked; Fresh or N/S; Cook Meth N/S
8602000000	212	540	1.28%	Water, indirect, all sources-Cooked; Fresh or N/S; Boiled
1500124000	240	1037	1.16%	Corn, field, syrup-Cooked; Canned; Cook Meth N/S
1307132000	110	62	1.09%	Cranberry, juice-Uncooked; Fresh or N/S; Cook Meth N/S
1304176000	240	424	1.05%	Grape, juice-Cooked; Canned; Cook Meth N/S
8602000000	230	296	1.00%	Water, indirect, all sources-Cooked; Dried; Cook Meth N/S

Critical foods (without foodforms) for this population (as derived from these records):
N=number of appearances in all records (including duplicates)
%=percent of total exposure for all records (including duplicates)

Food	N	Percent	Food Name
8601000000	2569	48.93%	Water, direct, all sources
8602000000	3164	12.82%	Water, indirect, all sources
0401355000	349	6.82%	Spinach
1500402000	4254	5.59%	Wheat, flour
0401204000	610	3.25%	Lettuce, head
0502389000	107	2.60%	Turnip, greens
1500124000	2079	2.29%	Corn, field, syrup
1304176000	609	1.60%	Grape, juice
1001241000	937	1.24%	Orange, juice
1307132000	124	1.13%	Cranberry, juice

==========